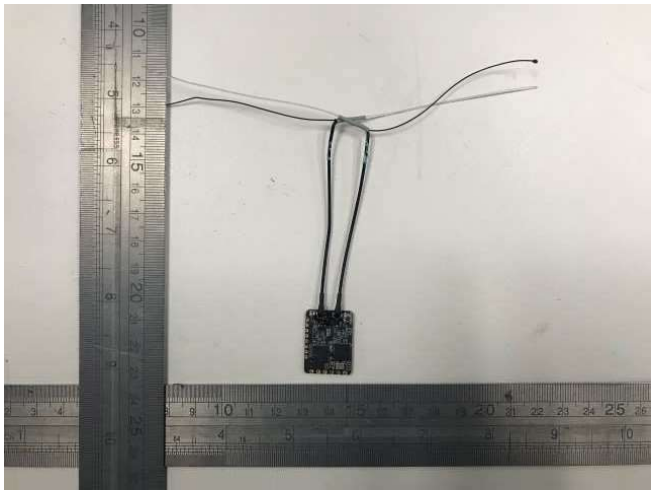
| | | | | |
|---|---|---|---|---|
| **Prüfbericht-Nr.:** *Test Report No.*: | **50159780 001** | **Auftrags-Nr.:** *Order No.*: | **144188446** | **Seite 1 von 17** *Page 1 of 17* |
| **Kunden-Referenz-Nr.:** *Client Reference No.*: | **N/A** | **Auftragsdatum:** *Order date*: | **27.06.2018** | |
| **Auftraggeber:** *Client*: | **TBS Avionics Limited 9/F, Tungtex Building, 203 Wai Yip Street, Kwun Tong, Hong Kong, China** | | | |
| **Prüfgegenstand:** *Test item*: | **915 MHz Receiver Module (Transceiver)** | | | |
| **Bezeichnung / Typ-Nr.:** *Identification / Type No.*: | **Crossfire Nano Diversity RX** | | | |
| **Auftrags-Inhalt:** *Order content*: | **FCC Certification** | | | |
| **Prüfgrundlage:** *Test specification*: | **FCC Part 15 Subpart C ANSI C63.10-2013** | | | |
| **Wareneingangsdatum:** *Date of receipt*: | **10.01.2020** |  | | |
| **Prüfmuster-Nr.:** *Test sample No.*: | **A001055945-001** | | | |
| **Prüfzeitraum:** *Testing period*: | **20.01.2020 - 25.02.2020** | | | |
| **Ort der Prüfung:** *Place of testing*: | **Hong Kong** | | | |
| **Prüflaboratorium:** *Testing laboratory*: | **TÜV Rheinland Hong Kong Ltd.** | | | |
| **Prüfergebnis*:** *Test result**: | **Pass** | | | |

| **geprüft von** / *tested by*: | | | **kontrolliert von** / *reviewed by*: | | |
|---|---|---|---|---|---|
| 24.03.2020 | Benny Lau / Senior Project Manager | | 24.03.2020 | Sharon Li / Senior Unit Manager | |
| **Datum** *Date* | **Name / Stellung** *Name / Position* | **Unterschrift** *Signature* | **Datum** *Date* | **Name / Stellung** *Name / Position* | **Unterschrift** *Signature* |

**Sonstiges** / *Other*: **FCC ID: QOS-RXNANODIV**

**Zustand des Prüfgegenstandes bei Anlieferung:** Prüfmuster vollständig und unbeschädigt
*Condition of the test item at delivery*: *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 nicht 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* |

# Table of Content

Page

# Product information

## Manufacturers declarations

| | Transceiver |
|---|---|
| Operating frequency range | 902.75 - 927.25 MHz |
| Type of modulation | Frequency Hopping Spread Spectrum |
| Number of channels | 50 |
| Channel separation | 0.5 MHz |
| Type of antenna | Dipole Antenna |
| Antenna gain (dBi) | 2.0 dBi |
| Power level | fix |
| Type of equipment | stand alone radio device |
| Connection to public utility power line | No |
| Nominal voltage | 7.6 VDC |
| Independent Operation Modes | Transmit and receive |

## Product function and intended use

The equipment under test (EUT) is an UHF long range transceiver for drone. It receive the control signal from the controller and transmit back the flight status back. It is powered by 7.6 VDC battery.

FCC ID: QOS-RXNANODIV

| Models | Product description |
|---|---|
| Crossfire Nano Diversity RX | 915 MHz Receiver Module (Transceiver) |

## Submitted documents

Circuit Diagram
Block Diagram
Technical Description
User manual
Label

## Independent Operation Modes

The basic operation modes are:

- Transmitting mode.

For further information refer to User Manual

## Related Submittal(s) Grants

This is a single application for certification of the UHF transmitter.
The receiver part is authorized by SDOC. For the test result, please refer to the test report 50308845 001 issued by TÜV Rheinland Hong Kong Ltd.

## Remark

The test results in this test report are only relevant to the tested sample and does not involve any assessment in the production.

# Test Set-up and Operation Mode

## Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

## Test Operation and Test Software

Test operation should refer to test methodology.

- During test, 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 (power = 14dBm) 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.

## Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

- NIL

## Countermeasures to achieve EMC Compliance

- NIL

# Test Methodology

## Radiated Emission

The radiated emission measurements of the transmitter part were performed according to the procedures in ANSI C63.10-2013.

For measurement below 1GHz - the equipment under test (EUT) was placed at the middle of the 80 cm height turntable. For measurement above 1GHz - the EUT was placed at the middle of the 1.5 m height turntable and RF absorbing material was placed on ground plane between turntable and measuring antenna. During the testing, the EUT was operated standalone and arranged for maximum emissions. The EUT was tested in three orthogonal planes.

The investigation is performed with the EUT rotated 360 ° , the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.

All radiated tests were performed at an antenna to EUT with 3 meters distance, unless stated otherwise in particular parts of this test report.

## Field Strength Calculation

The field strength at 3 m was established by adding the meter reading of the spectrum analyzer to the factors associated with antenna correction factor, cable loss, preamplifiers and filter attenuation.

The equation is expressed as follow:

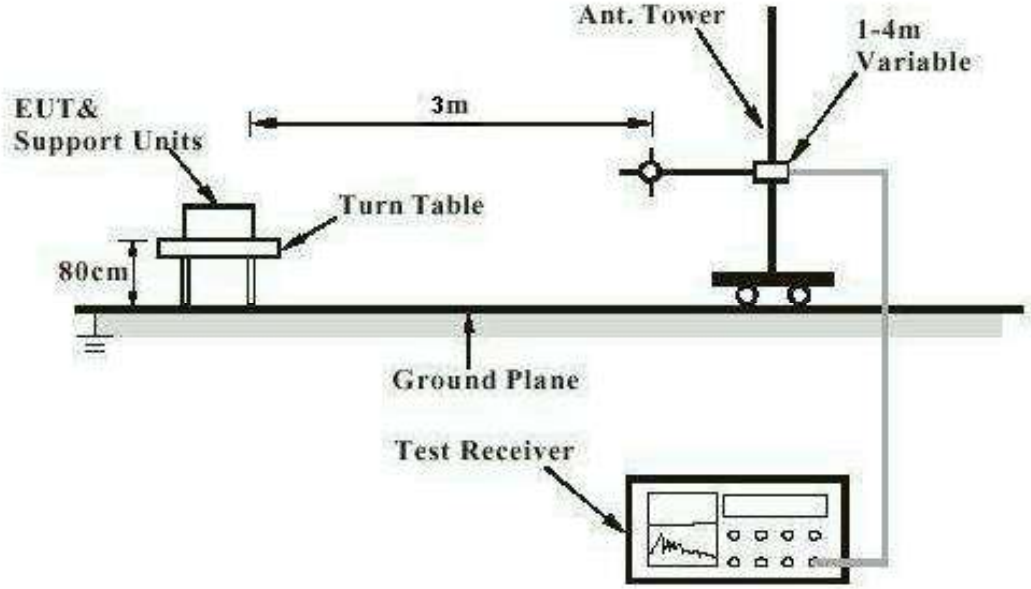
FS = R + AF + CF + FA – PA

Where FS = Field Strength in dBuV/m at 3 meters.
R = Reading of Spectrum Analyzer in dBuV.
AF = Antenna Factor in dB.
CF = Cable Attenuation Factor in dB.
FA = Filter Attenuation Factor in dB.
PA = Preamplifier Factor in dB.

FA and PA are only be used for the measuring frequency above 1 GHz.

# Test Setup Diagram

**Diagram of Measurement Configuration for Radiation Test**




**Note: Measurements above 1 GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.**

**Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)**

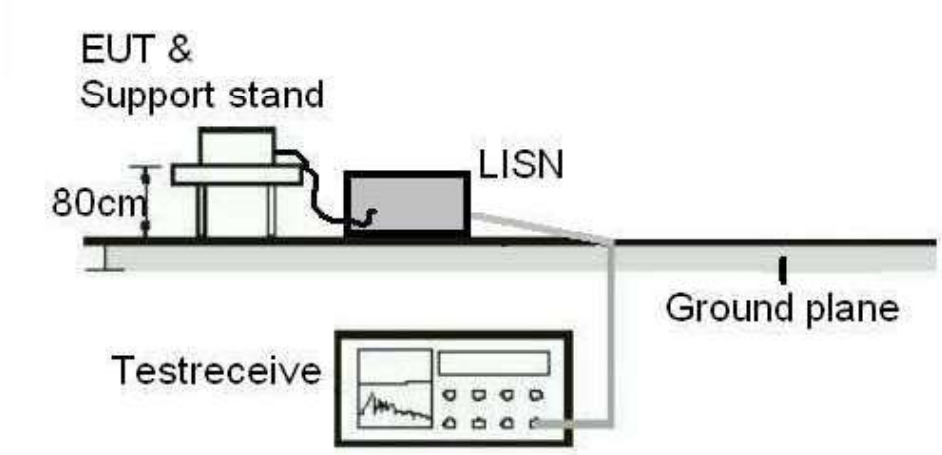
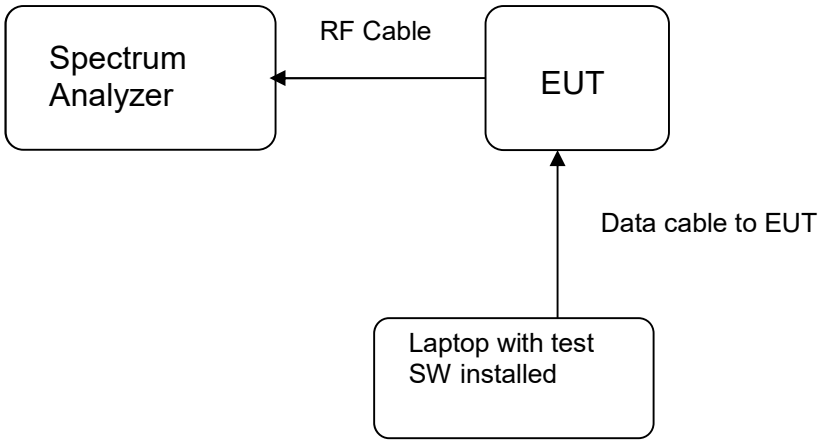


**Diagram of Equipment Configuration for Antenna-port Conducted Measurement (if applicable)**



# Test Facility

## Test Laboratory Information

TÜV Rheinland Hong Kong Ltd.
Address: 3-4, 11/F., Fou Wah Industrial Building, 10-16 Pun Shan Street, Tsuen Wan, N.T., Hong Kong·
Tel.: +852 2192 1000
Fax: +852 2192 1001
Email service-gc@tuv.com
Web: www.tuv.com

The test facility is recognized or accredited by the following organizations:

**FCC**

| | | |
|---|---|---|
| Type | : | Accredited Test Firm |
| Designation Number | : | HK0013 |
| Test Firm Registration Number | : | 371735 |
| Scope | : | Intentional Radiators |

# List of Test and Measurement Instruments

**Radiated Emission**

| Equipment | Manufacturer | Type | Cal. Date | Due Date |
|---|---|---|---|---|
| Semi-anechoic Chamber | Frankonia | Nil | 23 Apr 2019 | 23 Apr 2020 |
| Test Receiver | R & S | ESU26 | 11 Jun 2019 | 11 Jun 2020 |
| Bi-conical Antenna | R & S | HK116 | 21 Mar 2018 | 21 Mar 2020 |
| Log Periodic Antenna | R & S | HL223 | 22 Mar 2018 | 22 Mar 2020 |
| Cable with I-Joint Conector | Huber+Suhner | CNM-NMCMILX800-473 | 04 Oct 2018 | 04 Oct 2020 |
| Active Loop Antenna | EMCO | 6502 | 25 Oct 2018 | 25 Oct 2020 |
| Double-Ridged Waveguide Horn | EMCO | 3116 | 05 Oct 2018 | 05 Oct 2020 |
| Double-Ridged Waveguide Horn | EMCO | 3117 | 30 Aug 2018 | 30 Aug 2020 |
| Cable with I-Joint Conector | Huber+Suhner | CNM-NMCMILX800-473 | 04 Oct 2018 | 04 Oct 2020 |
| Microwave Preamplifier | COM-POWER Corporation | PAM-118A | 25 Jun 2019 | 25 Jun 2020 |
| High Pass Filter (cutoff freq. =1000MHz) | Trilithic | 23042 | 30 Oct 2019 | 30 Oct 2021 |
| High Frequency Cable | Pasternack | PE3VNA4001-3M | 29 Jan 2020 | 29 Jan 2021 |
| Horn Antenna | EMCO | 3115 | 28 Mar 2018 | 28 Mar 2020 |

**Radio Test**

| Equipment | Manufacturer | Type | Cal. Date | Due Date |
|---|---|---|---|---|
| Spectrum Analyzer | R & S | FSP30 | 26 Jun 2019 | 26 Jun 2020 |

# Measurement Uncertainty

The estimated combined standard uncertainty for power-line conducted emissions measurements is ±2.42dB.

The estimated combined standard uncertainty for radiated emissions measurements is ±4.81dB (9kHz to 30MHz) and ±4.62dB (30MHz to 200MHz) and ±5.67dB (200MHz to 1000MHz) and is ±5.07dB (1GHz to 8.2GHz) and ±4.58dB (8.2GHz to 12.4GHz) and ±4.78dB (12.4GHz to 18GHz)

The estimated combined standard uncertainty for antenna conducted emission is ±2.1dB

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for the level of confidence is approximately 95%.

# Results FCC Part 15 – Subpart C

| **FCC 15.203 – Antenna Requirement 1** | | **Pass** |
|---|---|---|
| **FCC Requirement:** | No antenna other than that furnished by the responsible party shall be used with the device | |
| **Results:** | a) Antenna type: | Dipole antenna permanently glued with epoxy to a connector. |
| | b) Manufacturer and model no: | N/A |
| | c) Peak Gain: | 2.0 dBi |
| **Verdict:** | Pass | |

| **FCC 15.204 – Antenna Requirement 2** | **Pass** |
|---|---|
| **FCC Requirement:** | An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator. |
| **Results:** | Only one integral antenna can be used. |
| **Verdict:** | N/A |

| **FCC 15.207 – Conducted Emission on AC Mains** | **N/A** |
|---|---|
| There is no AC power input or output ports on the EUT. | |

| **FCC 15.247 (b)(1) – Peak Output Power** | **Pass** |
|---|---|
| **FCC Requirement :** | |
| For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels. | |
| Test Specification : ANSI C63.10 – 2013<br>Test date : 25.02.2020<br>Mode of operation : Tx mode<br>Port of testing : Temporary antenna port<br>Supply voltage : 7.6 VDC<br>Temperature : 23ºC<br>Humidity : 50% | |
| **Results:** | For test protocols please refer to Appendix 1. |

| Frequency (MHz) | Measured level (dBm) | Cable loss (dB) | Maximum peak output power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|
| 902.75 | 12.43 | 0.5 | 12.93 | 30.0 | Pass |
| 914.75 | 12.65 | 0.5 | 13.15 | 30.0 | Pass |
| 927.25 | 12.67 | 0.5 | 13.17 | 30.0 | Pass |

| **FCC 15.247 (a) – 20 dB Bandwidth** | **Pass** |
|---|---|

**FCC Requirement:**

For frequency hopping systems operating in the 902-928 MHz band: The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Test Specification : ANSI C63.10 – 2013
Test date : 25.02.2020
Mode of operation : Tx mode
Port of testing : Temporary antenna port
Supply voltage : 7.6 VDC
Temperature : 23ºC
Humidity : 50%

**Results:** Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.

For test protocols refer to Appendix 1.

| Frequency (MHz) | 20 dB left (MHz) | 20 dB right (MHz) | 20dB bandwidth (MHz) |
|---|---|---|---|
| 902.75 | 902.620 | 902.884 | 0.264 |
| 914.75 | 914.624 | 914.886 | 0.262 |
| 927.25 | 927.122 | 927.380 | 0.258 |

| **FCC 15.247(a)(1)– Carrier Frequency Separation** | **Pass** |
|---|---|

**FCC Requirement:**

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

Test Specification : ANSI C63.10 – 2013
Test date : 25.02.2020
Mode of operation : Tx mode (hopping on)
Port of testing : Temporary antenna port
Supply voltage : 7.6 VDC
Temperature : 23ºC
Humidity : 50%

**Results:** Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.

For test Results plots refer to Appendix 1.

| Channel Separation (kHz) | 20dB bandwidth (KHz) | Verdict |
|---|---|---|
| 500 | 264 | Pass |

| FCC 15.247 (a)(1)(iii)– Number of hopping channels | Pass |
|---|---|

**FCC Requirement:**

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies.

Test Specification : ANSI C63.10 – 2013
Test date : 25.02.2020
Mode of operation : Tx mode (hopping on)
Port of testing : Temporary antenna port
Supply voltage : 7.6 VDC
Temperature : 23ºC
Humidity : 50%

**Results:** For test Results plots refer to Appendix 1.

| No. of hopping channels | Limit | Verdict |
|---|---|---|
| 50 | 25 | Pass |

| FCC 15.247 (a)(1)(iii) – Time of Occupancy (Dwell Time) | Pass |
|---|---|

**FCC Requirement:**

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

Test Specification : ANSI C63.10 – 2013
Test date : 25.02.2020
Mode of operation : Tx mode (hopping on)
Port of testing : Temporary antenna port
Supply voltage : 7.6 VDC
Temperature : 23ºC
Humidity : 50%

**Results:** Time period calculation = 10

Dwell time = 10 x 5.94 x $10^{-3}$ = 0.0594 s
<= 0.4 s

For test protocols please refer to Appendix 1.

**Verdict:** Pass

| **FCC 15.247 (a) – Hopping Sequence** | **Pass** |
|---|---|
| **FCC Requirement:** | The system radio frequency (RF) bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset, while the long-term distribution appears evenly distributed. |
| Refer to LoRa Specification | |

| **FCC 15.247 (a) – Equal Hopping Frequency Use** | **Pass** |
|---|---|
| **FCC Requirement:** | Each of the transmitter's hopping channels is used equally on average.<br><br>The system radio frequency (RF) bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset, while the long-term distribution appears evenly distributed. |
| Refer to LoRa Specification | |

| **FCC 15.247 (a) – Receiver Input Bandwidth** | **Pass** |
|---|---|
| **FCC Requirement:** | The associated receiver(s) complies with the requirement that its input bandwidth matches the bandwidth of the transmitted signal. |
| Refer to LoRa Specification | |

| **FCC 15.247 (a) – Receiver Hopping Capability** | **Pass** |
|---|---|
| **FCC Requirement:** | The associated receiver has the ability to shift frequencies in synchronisation with the transmitted signals. |
| Refer to LoRa Specification | |

| **FCC 15.247 (d) – Spurious Conducted Emissions** | **Pass** |
|---|---|

FCC Requirement:

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.

Test Specification : ANSI C63.10 – 2013
Test date : 25.02.2020
Mode of operation : Tx mode
Port of testing : Temporary antenna port
Supply voltage : 7.6 VDC
Temperature : 23 ºC
Humidity : 50 %

**Results:** Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.

There is no peak found outside any 100kHz bandwidth of the operating frequency band in the three transmit frequency. All three transmit frequency modes comply with the limit stated in subclause 15.247(d). For test protocols refer to Appendix 1.

| Operating frequency (MHz) | Spurious frequency (MHz) | Spurious Level (dBm) | Reference value (dBm) | Delta (dB) | Verdict |
|---|---|---|---|---|---|
| 902.75 | 1804.00 | -38.03 | 12.35 | 50.38 | Pass |
| 914.75 | 1828.00 | -39.61 | 12.41 | 52.02 | Pass |
| 927.25 | 1856.00 | -40.70 | 12.44 | 53.14 | Pass |

| **FCC 15.205– Radiated Emissions in Restricted Frequency Bands** | **Pass** |
|---|---|

Test Specification : ANSI C63.10 – 2013
Test Date : 20.01.2020
Mode of operation : Tx mode
Port of testing : Enclosure
Frequency range : 9kHz – 10GHz
Supply voltage : 7.6 VDC
Temperature : 23ºC
Humidity : 50%

**FCC Requirement:** In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in section15.205(a), must also comply with the radiated emission limits specified in section 15.205(c).

**Results:** Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.

All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.

Mode: 902.75 MHz TX Vertical Polarization

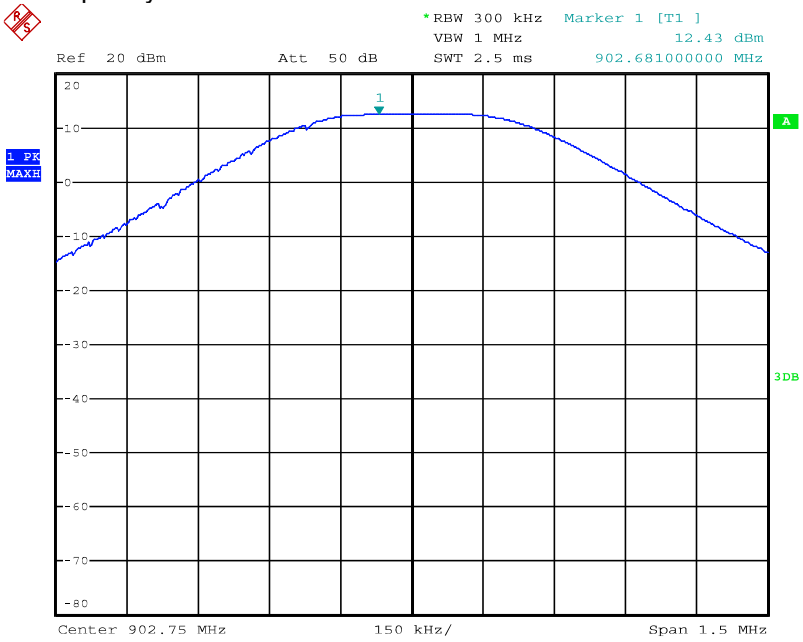
| Freq MHz | Level dBuV/m | Limit/ Detector dBuV/m |
|---|---|---|
| 1805.570 | 53.0 | 74.0 / PK |
| 1805.570 | 41.8 | 54.0 / AV |
| 6319.352 | 55.2 | 74.0 / PK |
| 6319.352 | 41.2 | 54.0 / AV |
| 7222.067 | 61.9 | 74.0 / PK |
| 7222.067 | 47.2 | 54.0 / AV |
| Mode: 902.75 MHz TX | Horizontal Polarization | |
| **Freq MHz** | **Level dBuV/m** | **Limit/ Detector dBuV/m** |
| 1805.339 | 59.9 | 74.0 / PK |
| 1805.339 | 48.5 | 54.0 / AV |
| 6318.681 | 56.7 | 74.0 / PK |
| 6318.681 | 40.4 | 54.0 / AV |
| 7222.099 | 61.3 | 74.0 / PK |
| 7222.099 | 44.4 | 54.0 / AV |
| Mode: 914.75 MHz TX | Vertical Polarization | |
| **Freq MHz** | **Level dBuV/m** | **Limit/ Detector dBuV/m** |
| 1829.660 | 61.2 | 74.0 / PK |
| 1829.660 | 45.3 | 54.0 / AV |
| 6403.826 | 55.8 | 74.0 / PK |
| 6403.826 | 39.5 | 54.0 / AV |
| 7318.461 | 52.9 | 74.0 / PK |
| 7318.461 | 41.3 | 54.0 / AV |
| Mode: 914.75 MHz TX | Horizontal Polarization | |
| **Freq MHz** | **Level dBuV/m** | **Limit/ Detector dBuV/m** |
| 1829.650 | 59.9 | 74.0 / PK |
| 1829.650 | 48.6 | 54.0 / AV |
| 4573.669 | 49.7 | 74.0 / PK |
| 4573.669 | 36.9 | 54.0 / AV |
| 7318.605 | 60.5 | 74.0 / PK |
| 7318.605 | 43.6 | 54.0 / AV |
| Mode: 927.25 MHz TX | Vertical Polarization | |
| **Freq MHz** | **Level dBuV/m** | **Limit/ Detector dBuV/m** |
| 6490.935 | 59.4 | 74.0 / PK |
| 6490.935 | 45.2 | 54.0 / AV |
| 7418.000 | 54.6 | 74.0 / PK |
| 7418.000 | 43.4 | 54.0 / AV |
| Mode: 927.25 MHz TX | Horizontal Polarization | |
| **Freq MHz** | **Level dBuV/m** | **Limit/ Detector dBuV/m** |
| 1854.500 | 59.7 | 74.0 / PK |
| 1854.500 | 48.9 | 54.0 / AV |
| 7417.346 | 63.5 | 74.0 / PK |
| 7417.346 | 46.1 | 54.0 / AV |
| 6491.275 | 57.7 | 74.0 / PK |
| 6491.275 | 41.6 | 54.0 / AV |

# Appendix 1

# Test Results

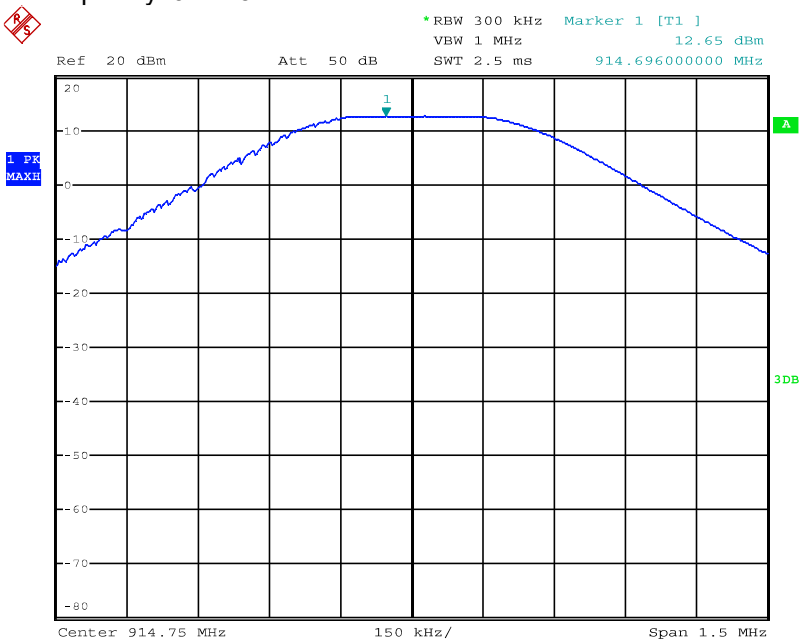
# Peak Output Power

Tx frequency: 902.75 MHz



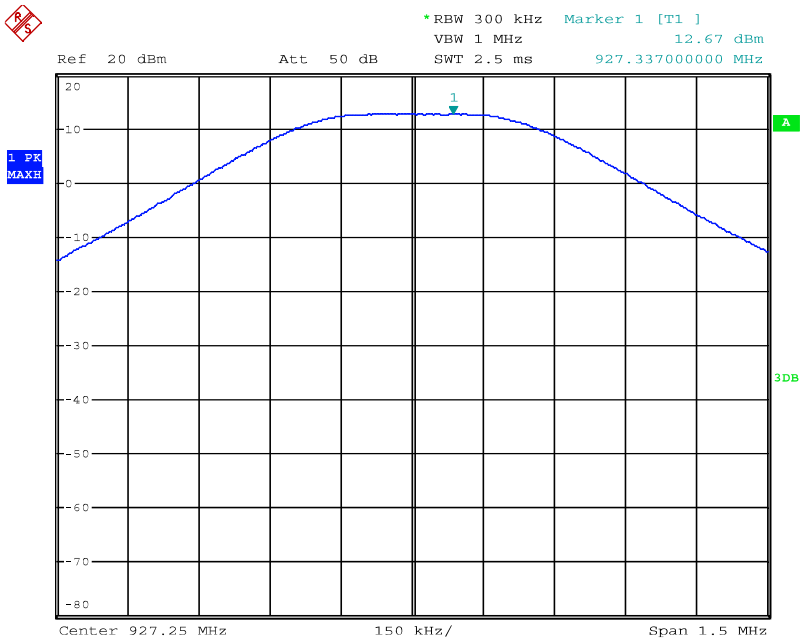

Date: 25.FEB.2020 08:29:45

Tx frequency: 914.75 MHz




Date: 21.FEB.2020 09:30:01

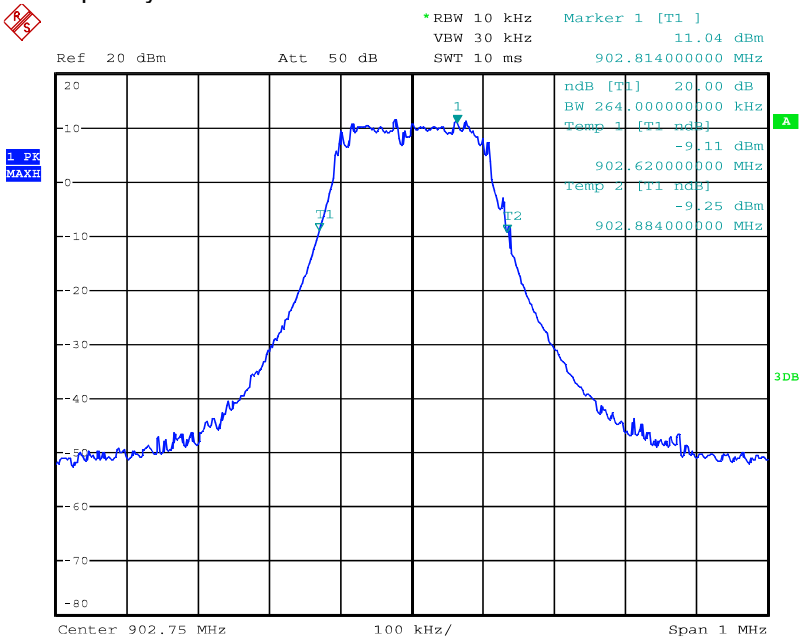
Tx frequency: 927.25 MHz




Date: 21.FEB.2020 09:29:04

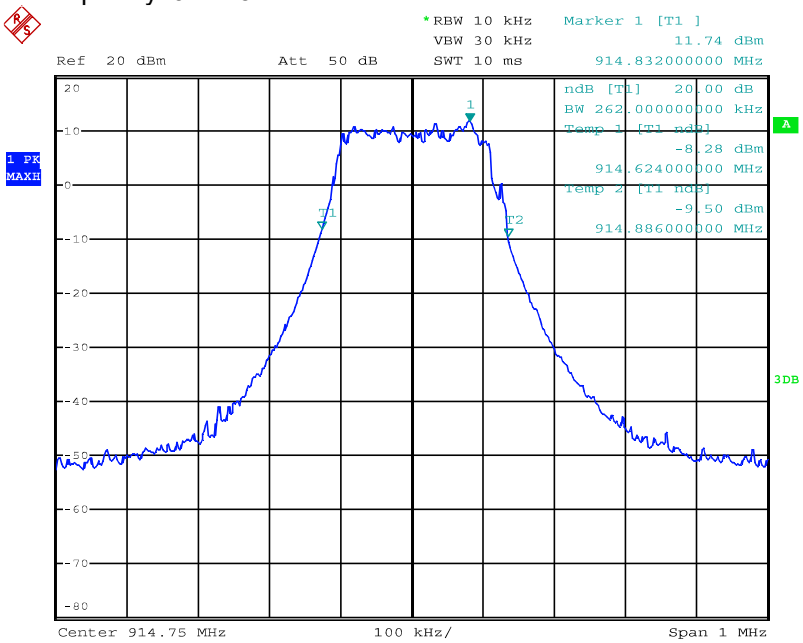
# 20dB Bandwidth

Tx frequency: 902.75MHz



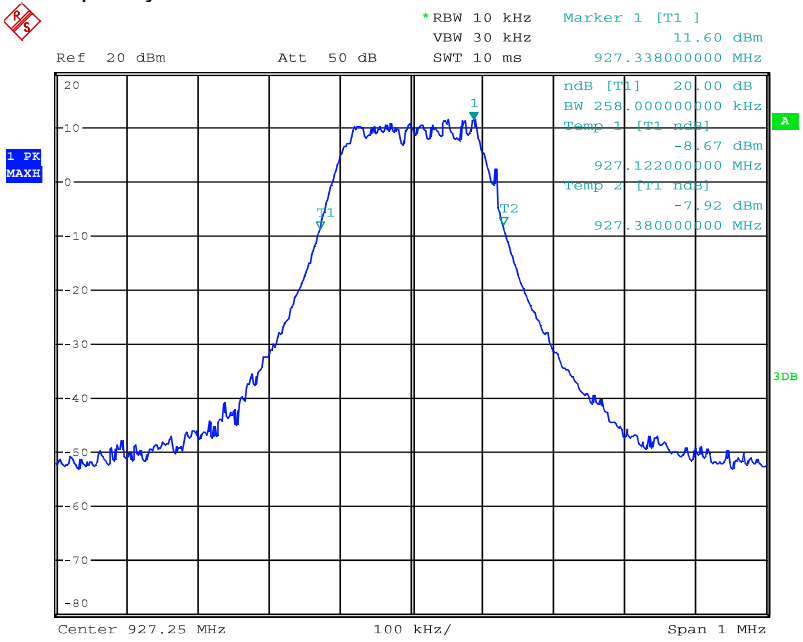

Date: 21.FEB.2020 09:16:45

Tx frequency: 914.75MHz



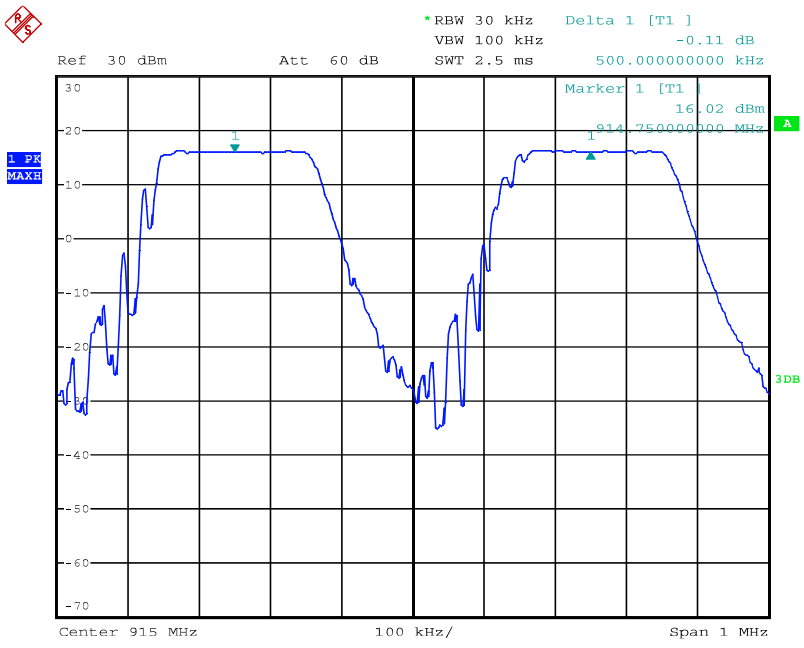

Date: 21.FEB.2020 09:25:10

Tx frequency: 927.25MHz



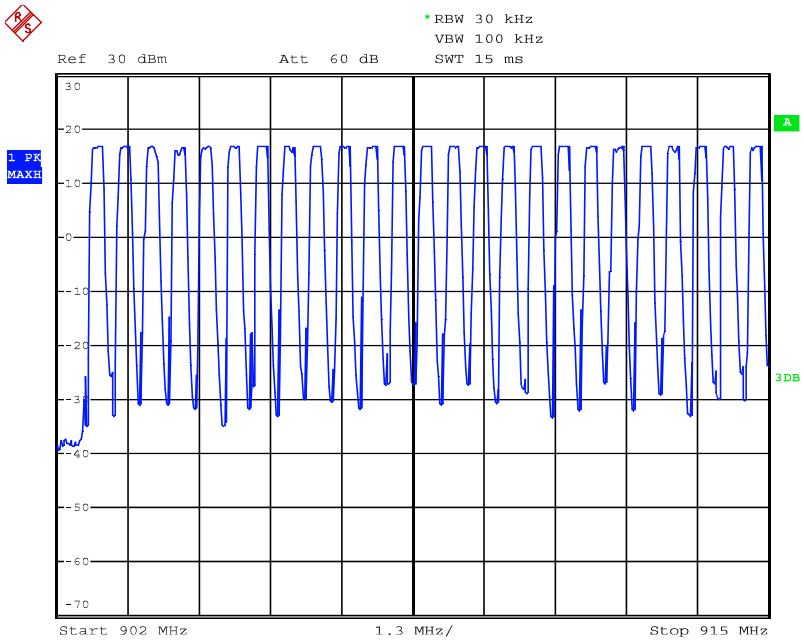

Date: 21.FEB.2020 09:26:18

# Carrier Frequency Separation

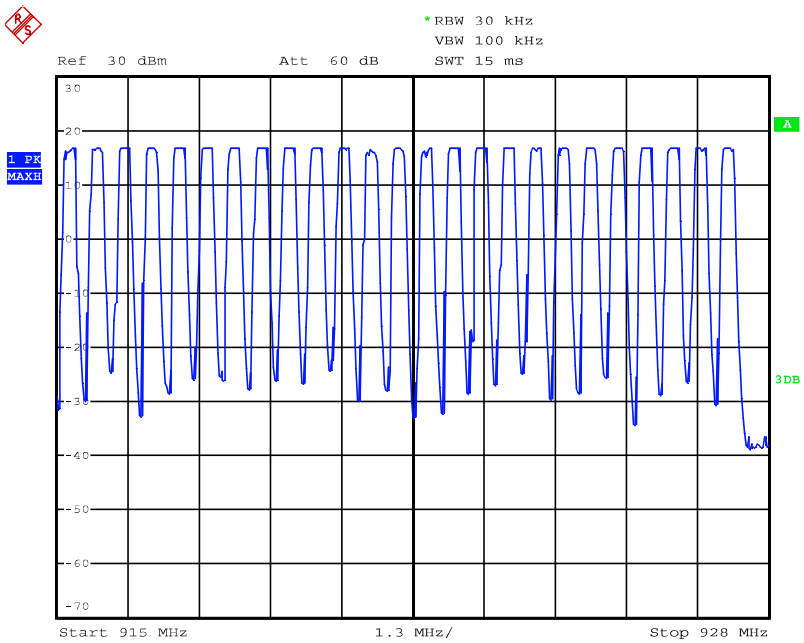



Date: 25.FEB.2020 06:36:39

# Number of hopping channels

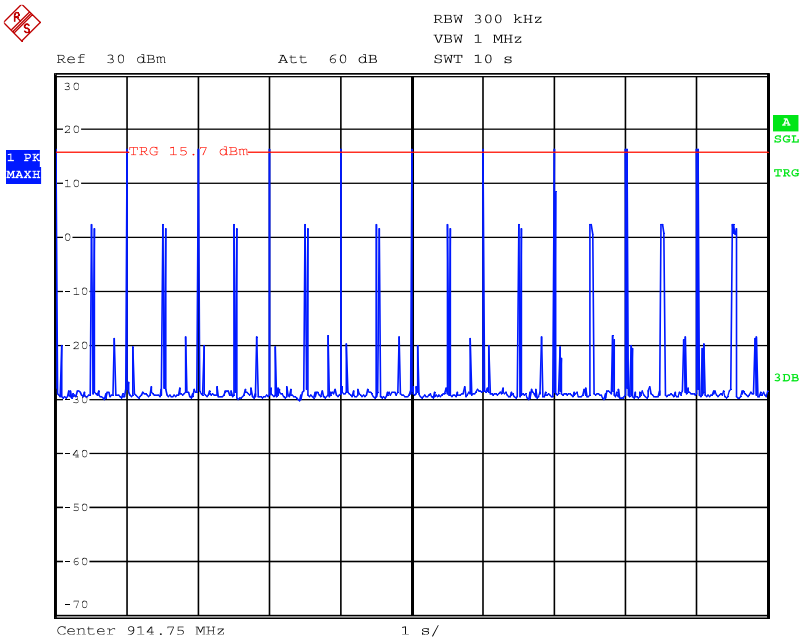



Date: 25.FEB.2020 06:42:59

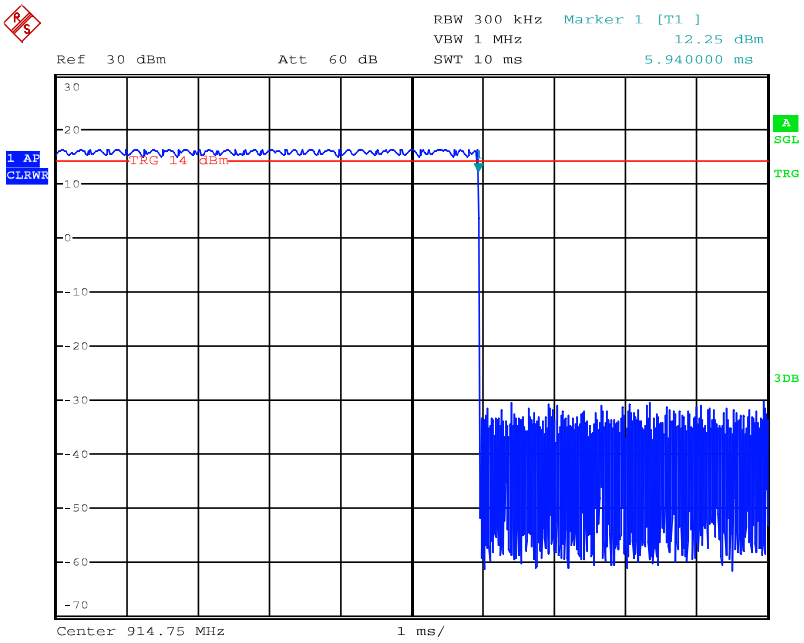



Date: 25.FEB.2020 06:49:47

# Dwell Time



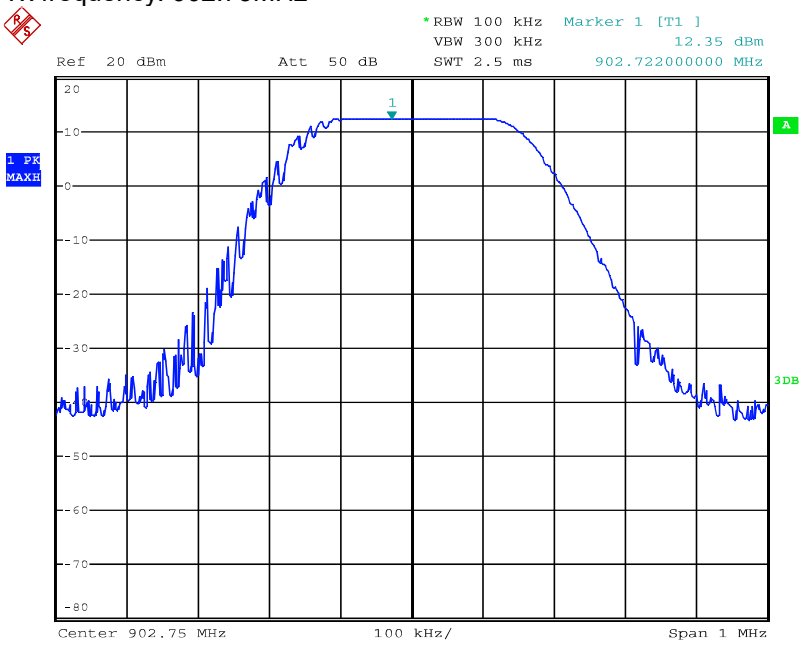

Date: 25.FEB.2020 07:01:43



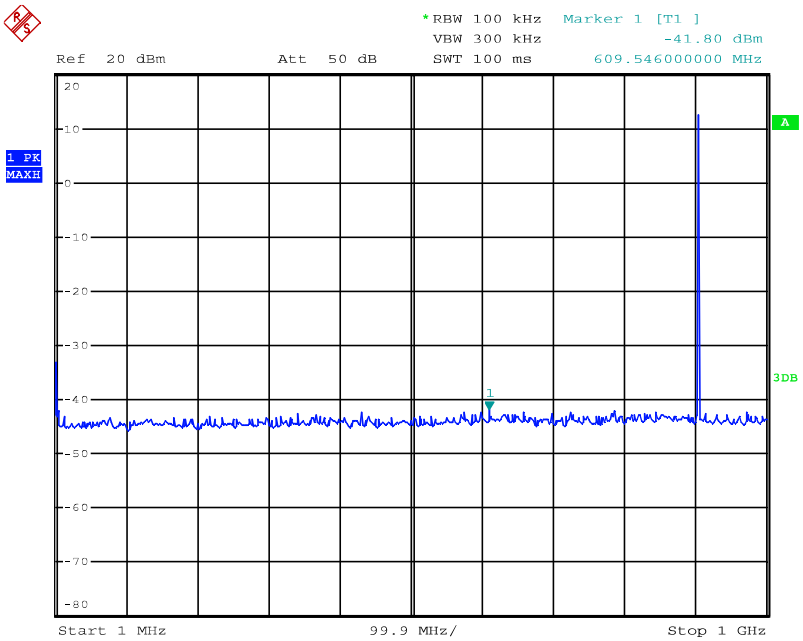

Date: 25.FEB.2020 07:05:50

# Spurious Emissions - Conducted

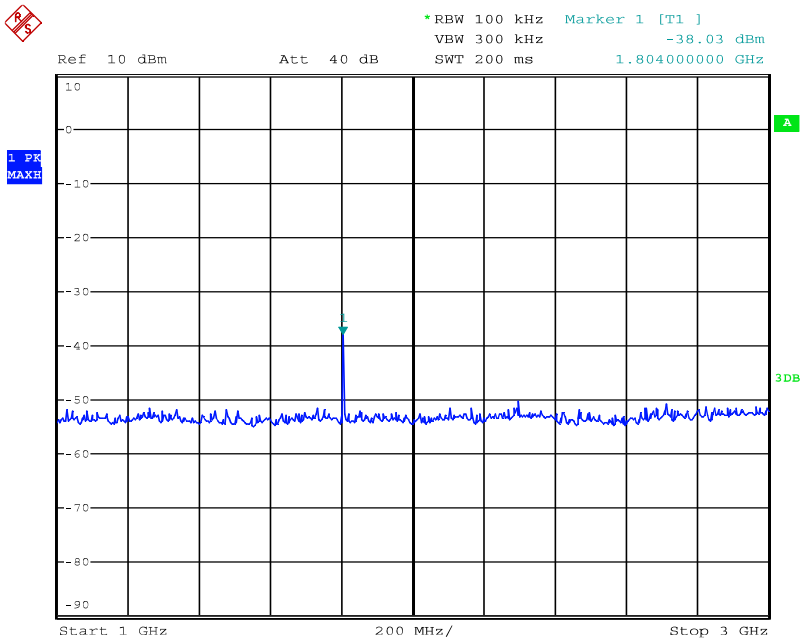
Tx frequency: 902.75MHz



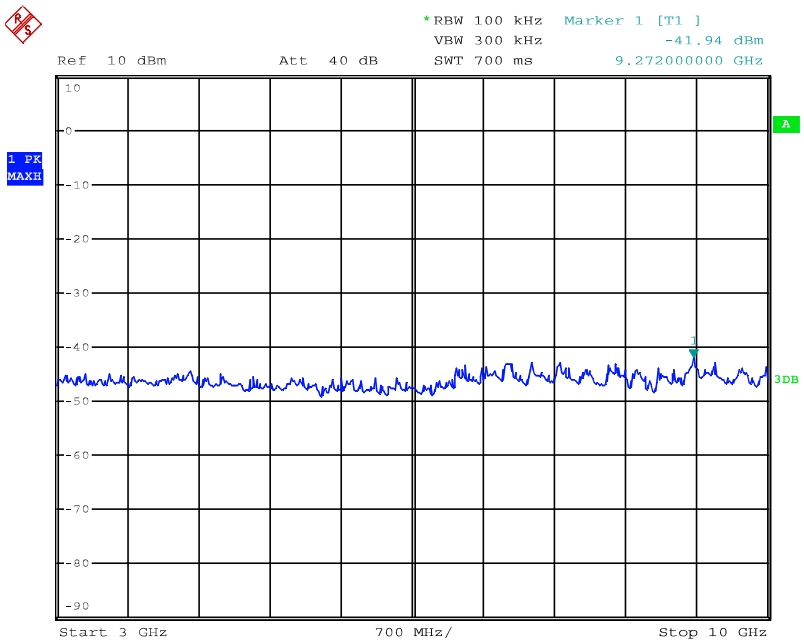

Date: 25.FEB.2020 07:21:30




Date: 25.FEB.2020 07:11:10

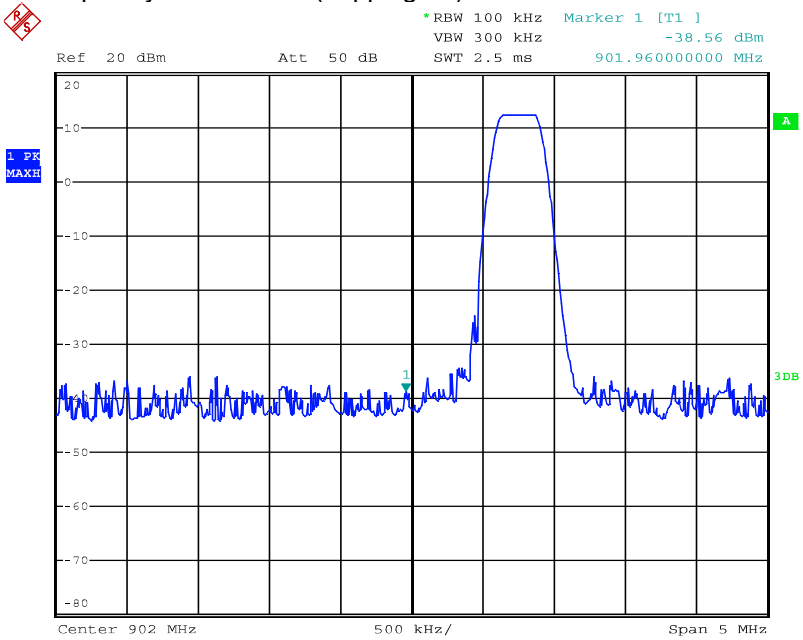



Date: 25.FEB.2020 07:12:19



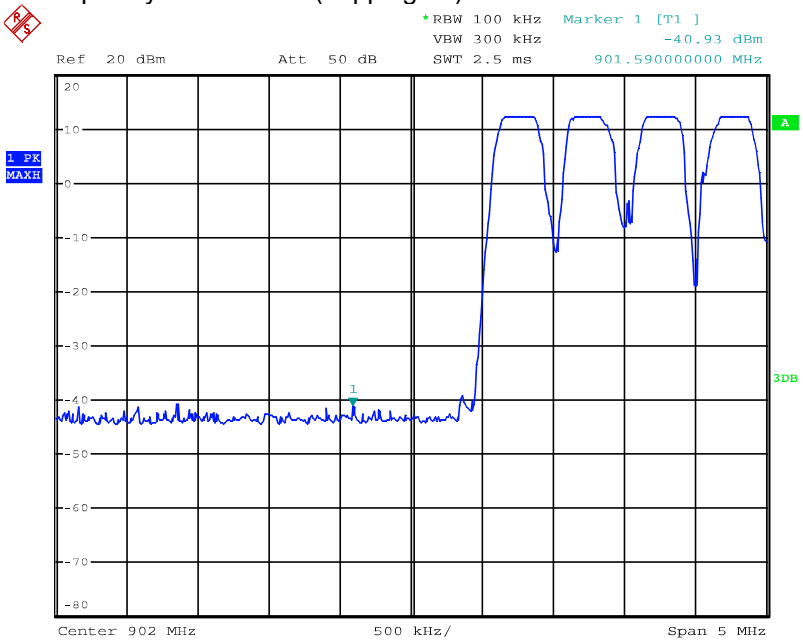

Date: 25.FEB.2020 07:12:51

Tx frequency: 902.75MHz (hopping off)



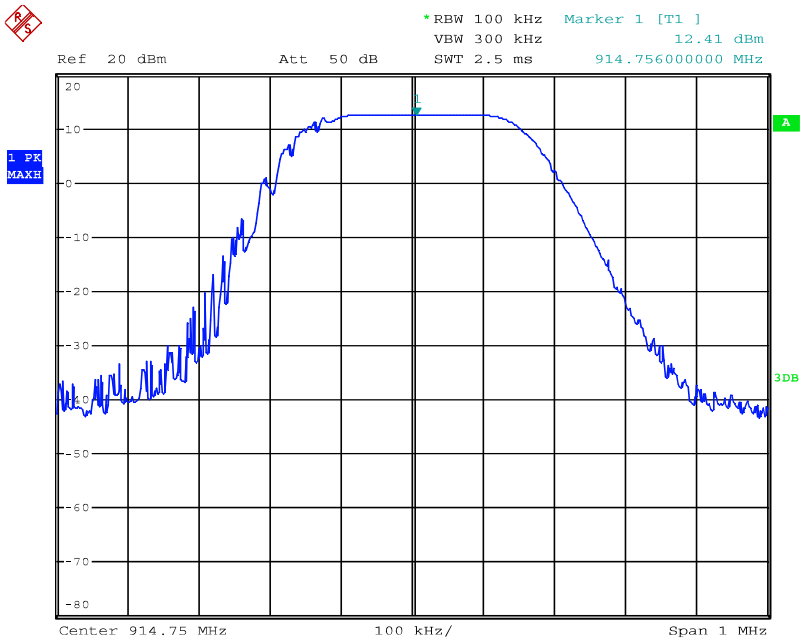

Date: 25.FEB.2020 07:14:28

Tx frequency: 902.75MHz (hopping on)

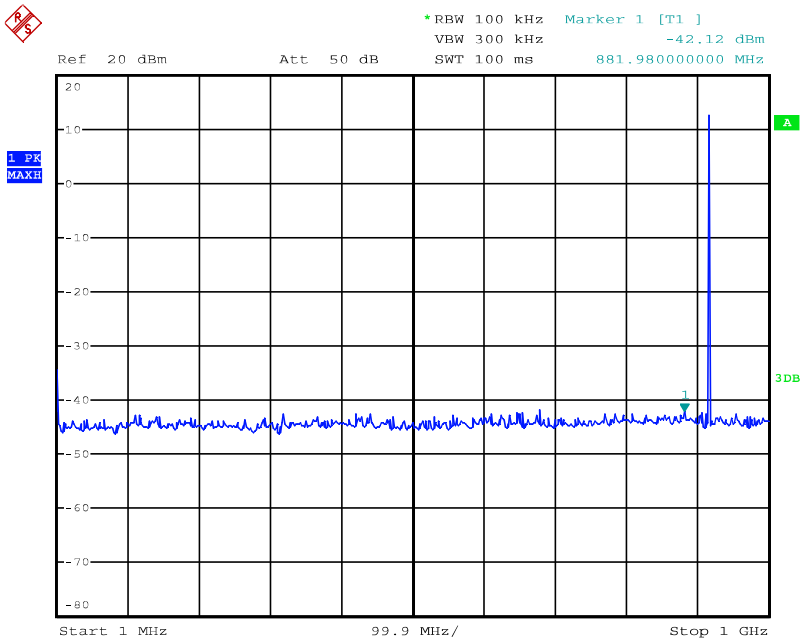



Date: 25.FEB.2020 07:23:26

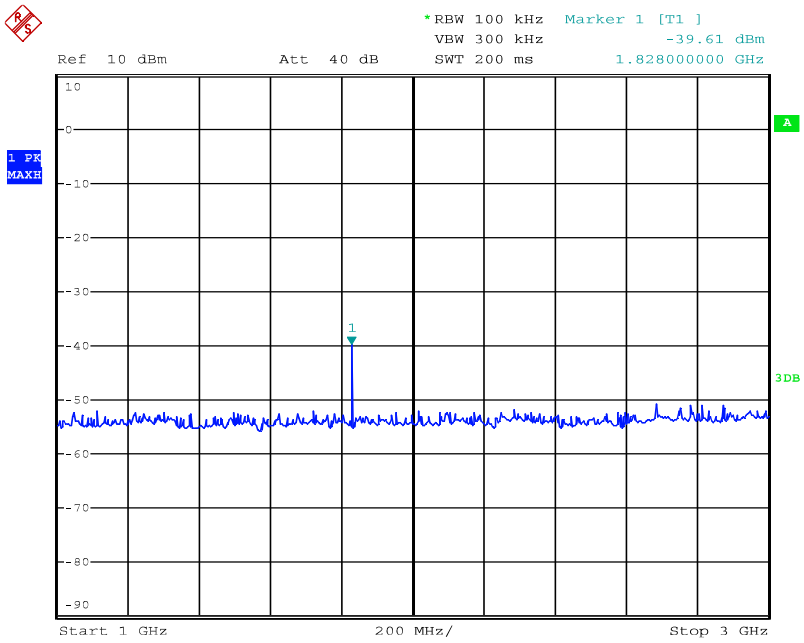
Tx frequency: 914.75 MHz



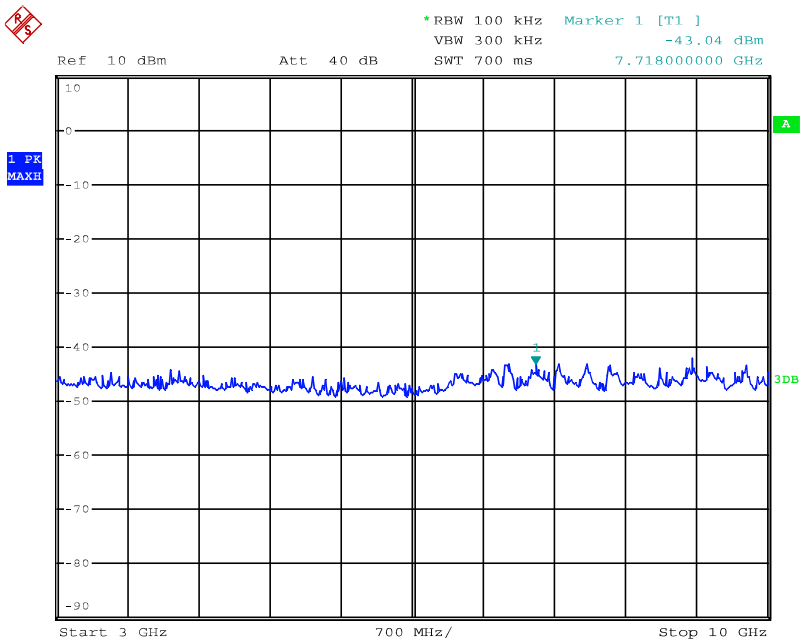

Date: 25.FEB.2020 07:20:42




Date: 25.FEB.2020 07:15:21

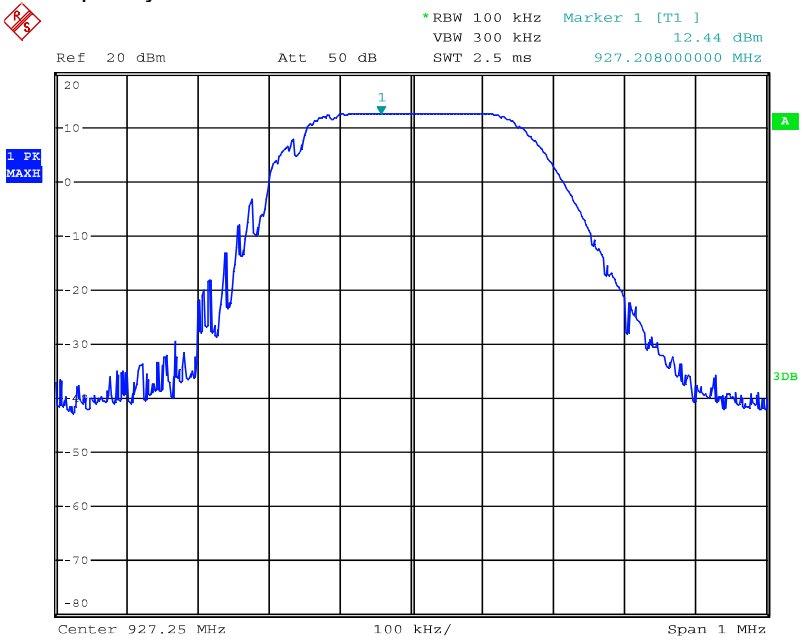



Date: 25.FEB.2020 07:15:53

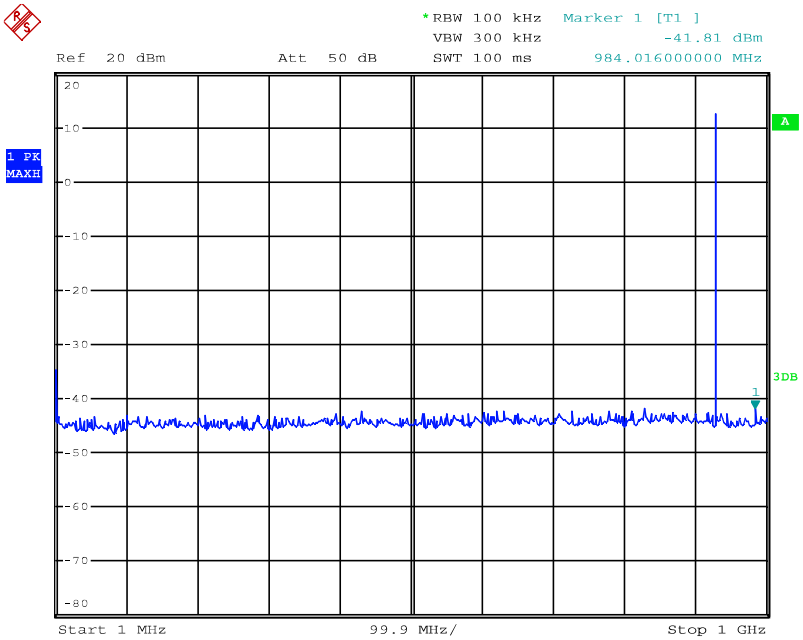



Date: 25.FEB.2020 07:16:19

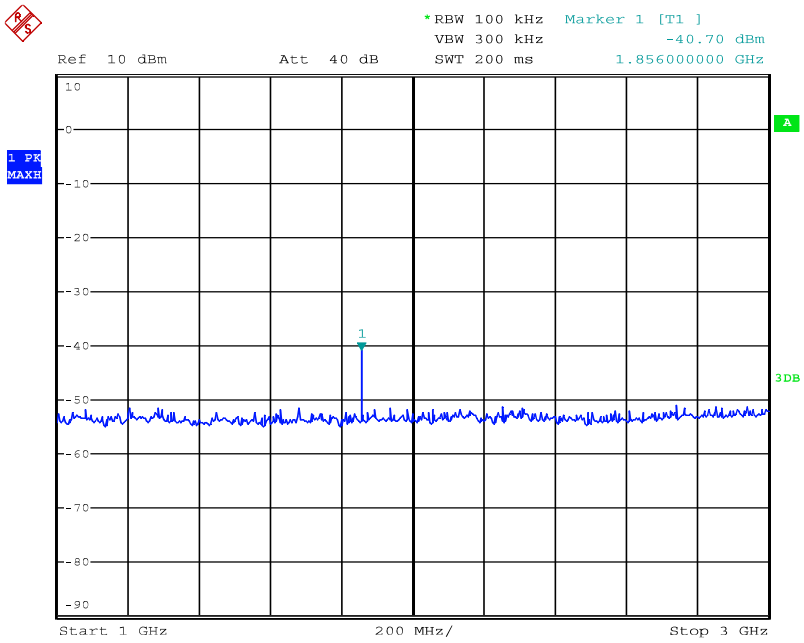
Tx frequency: 927.25 MHz



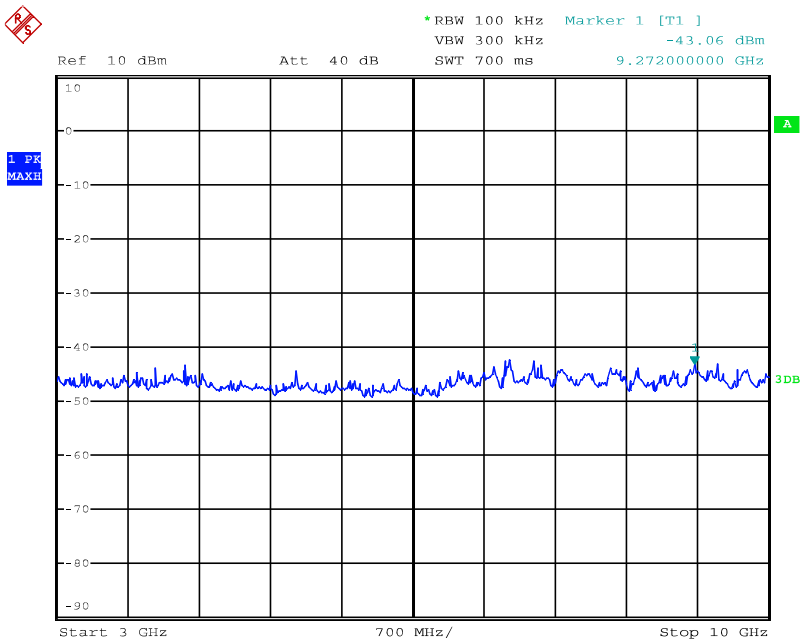

Date: 25.FEB.2020 07:20:03




Date: 25.FEB.2020 07:17:16

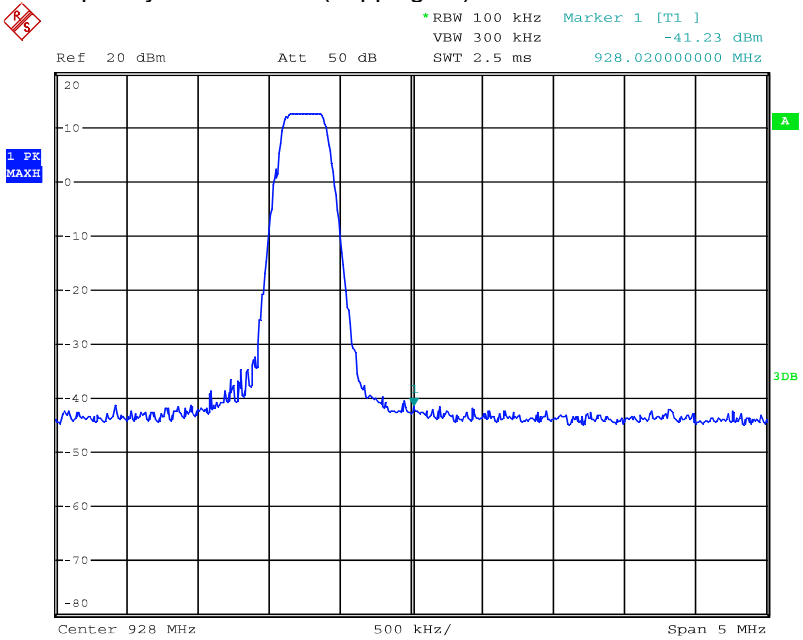



Date: 25.FEB.2020 07:18:09



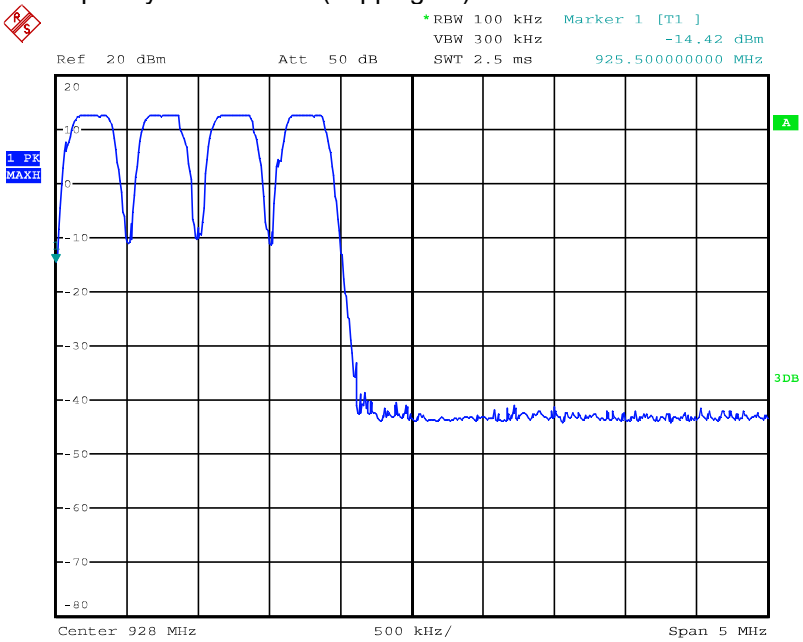

Date: 25.FEB.2020 07:18:41

Tx frequency: 927.25 MHz (hopping off)




Date: 25.FEB.2020 07:19:27

Tx frequency: 927.25 MHz (hopping on)




Date: 25.FEB.2020 07:26:05