

RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter)

Limits

In any 100 kHz bandwidths outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Modulation: LoRa

Mode: SISO

Results

The attenuation of highest emissions at the band-edge is more than 30 dB respect to the highest level of the desired power.

- Hopping OFF:

Channel Frequency (MHz)	Frequency (MHz)	Inband Peak Lvl (dBm)
915.3	915.0555	20.1
927.7	927.6905	19.93

- Hopping ON:

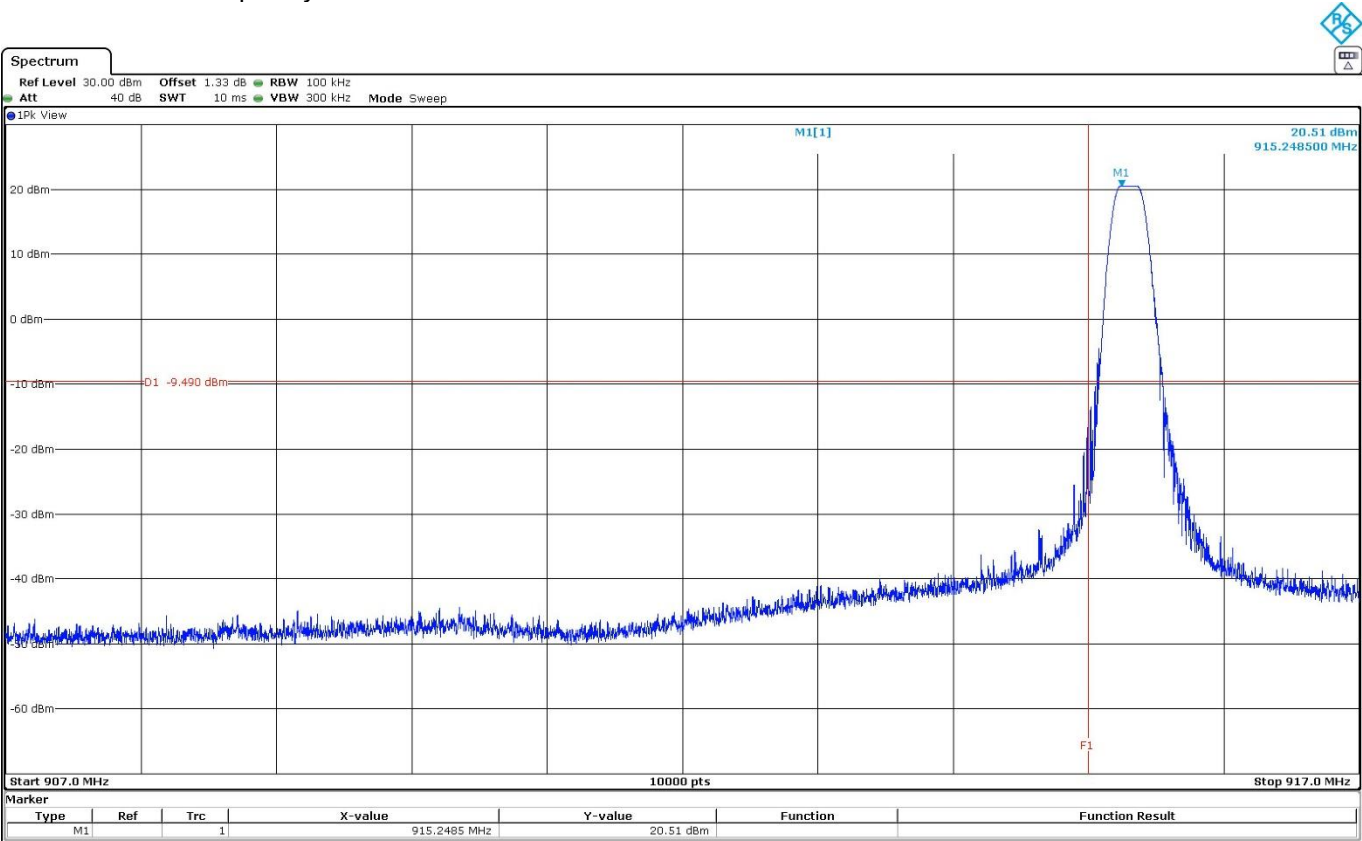
Channel Frequency (MHz)	Frequency (MHz)	Inband Peak Lvl (dBm)
Hopping	917.3855	19.19
Hopping	920.0070	19.07

Verdict

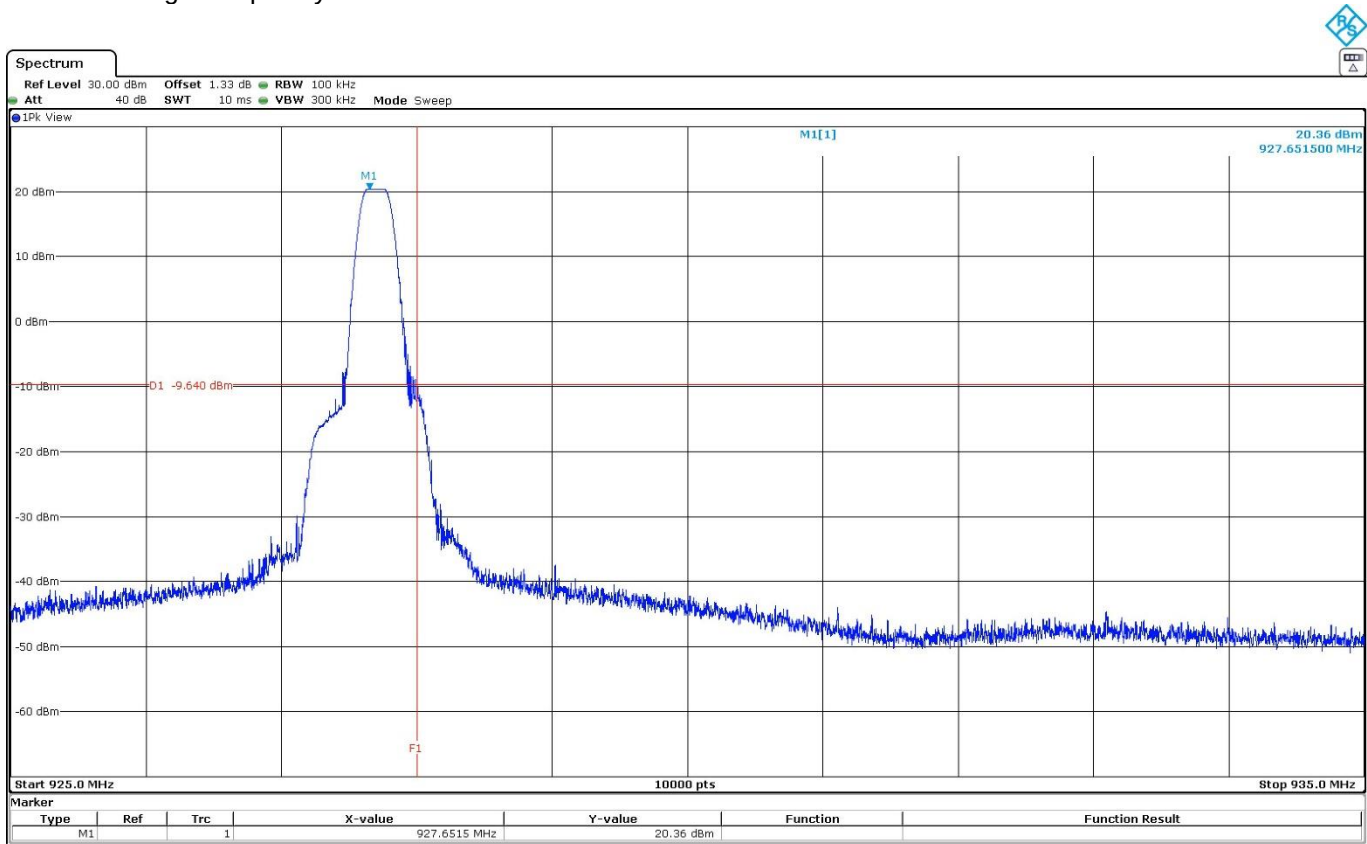
Pass

Attachments

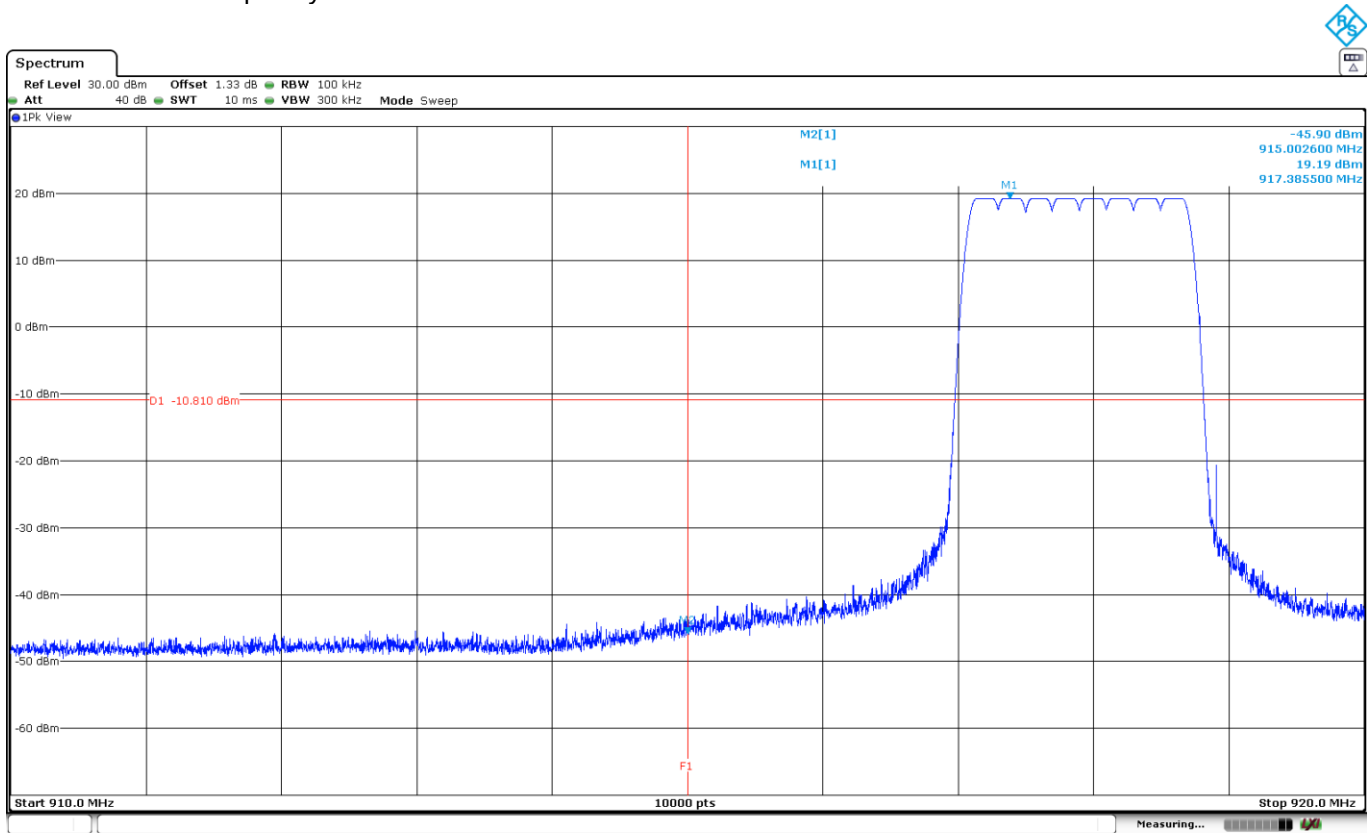
- Hopping OFF:
 - Low Frequency Section:



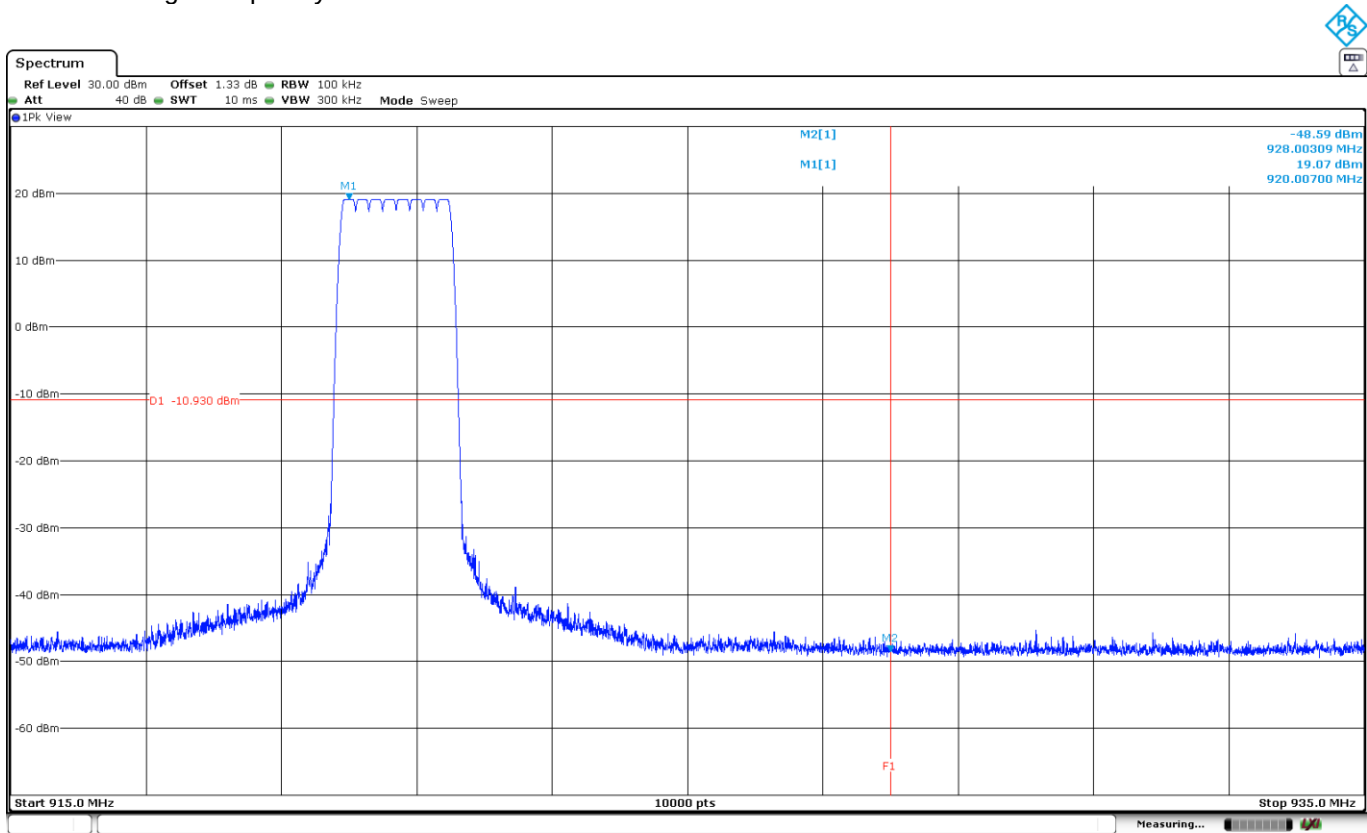
- Hopping OFF:
 - High Frequency Section:



- Hopping ON:
 - Low Frequency Section:



- Hopping ON:
 - High Frequency Section:



RSS-247 5.5 / FCC 15.247 (d) [RSE] Emission limitations radiated (Transmitter)

Limits

* FCC 15.247:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)/RSS-Gen):

Frequency Range (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

* RSS-247: Attenuation below the general field strength limits specified in RSS-Gen is not required.

Frequency range tested for Radiated emissions

Start frequency: no radiofrequency signal generated in the device found below 10^{th} sub-armonic, no further investigation required.

Stop frequency: it has been performed the radiated spurious emissions until 10^{th} armonic.

Modulation: LoRa
Mode: SISO

Results

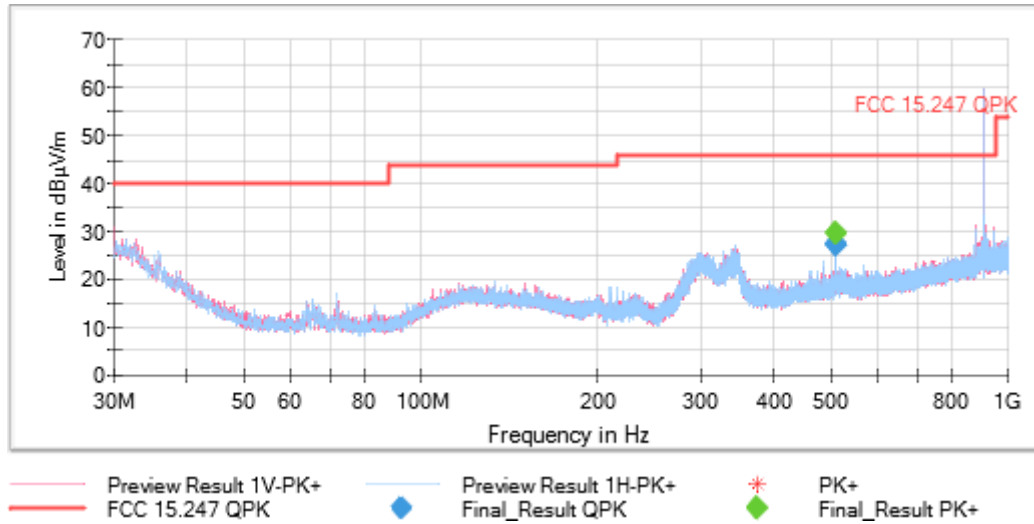
Freq Rng (GHz)	Freq (MHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
[0.03, 1]	915.3	510.089	27.01	H	QP
[0.03, 1]	921.5	60.009	17.33	V	QP
[0.03, 1]	921.5	346.826	22.06	H	QP
[0.03, 1]	921.5	794.875	28.46	H	QP
[0.03, 1]	927.7	39.185	25.11	H	QP
[0.03, 1]	927.7	40.458	20.65	H	QP
[0.03, 1]	927.7	47.945	17.64	V	QP
[0.03, 1]	927.7	60.009	18.66	H	QP
[0.03, 1]	927.7	71.922	16.32	V	QP
[0.03, 1]	927.7	83.987	13.76	V	QP

Verdict
Pass

Attachments

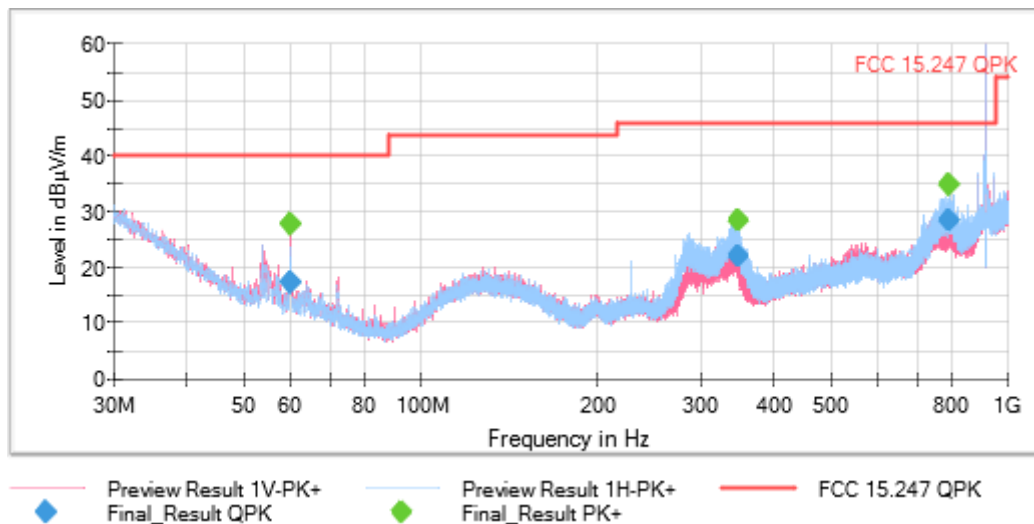
Frequency Range GHz = [0.03, 1] Equipment Type = Hybrid
 Modulation = LoRa Frequency MHz = 915.30000
 Mode = SISO Active Port = 1

Images:



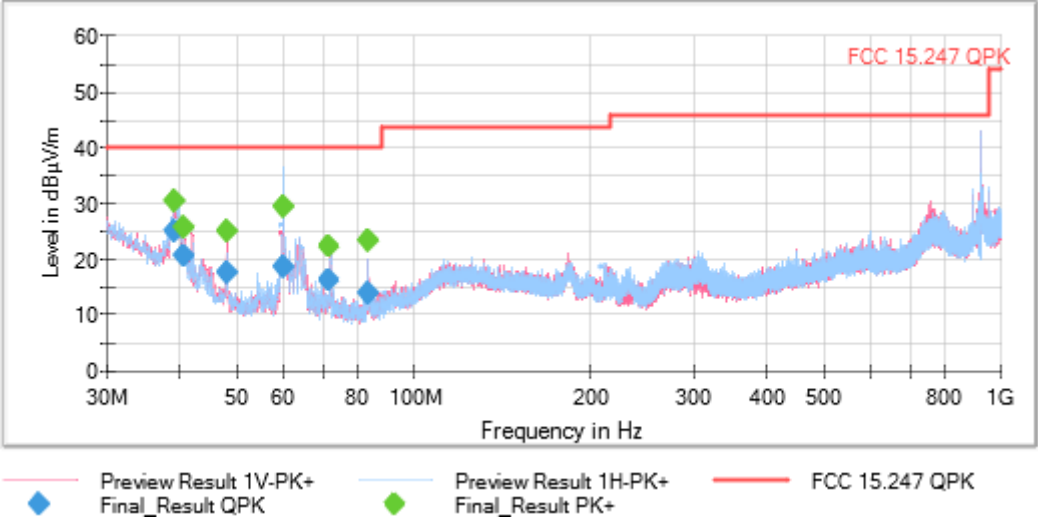
Frequency Range GHz = [0.03, 1] Equipment Type = Hybrid
 Modulation = LoRa Frequency MHz = 921.50000
 Mode = SISO Active Port = 1

Images:



Frequency Range GHz = [0.03, 1] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 927.70000
Mode = SISO Active Port = 1

Images:



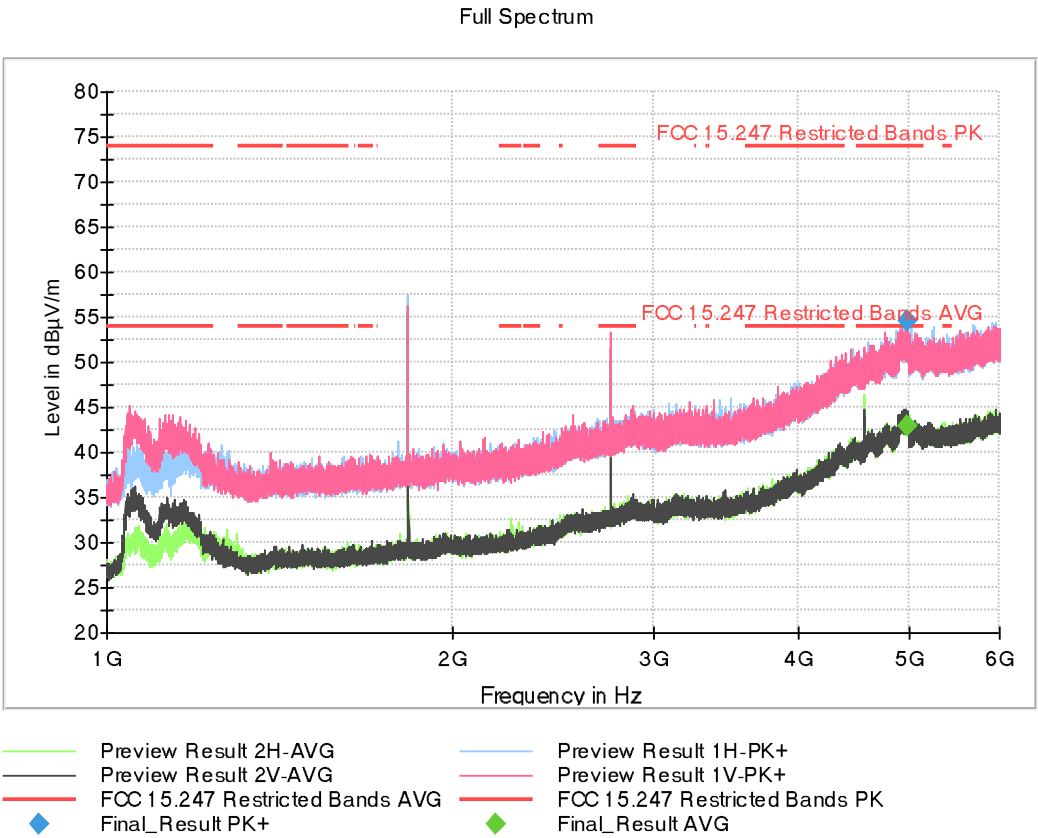
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	30 MHz - 1 GHz	30,312 kHz	PK+	100 kHz	1 s	0 dB

Frequency Range GHz = [1, 6] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 915.30000
Mode = SISO Active Port = 1

Images:



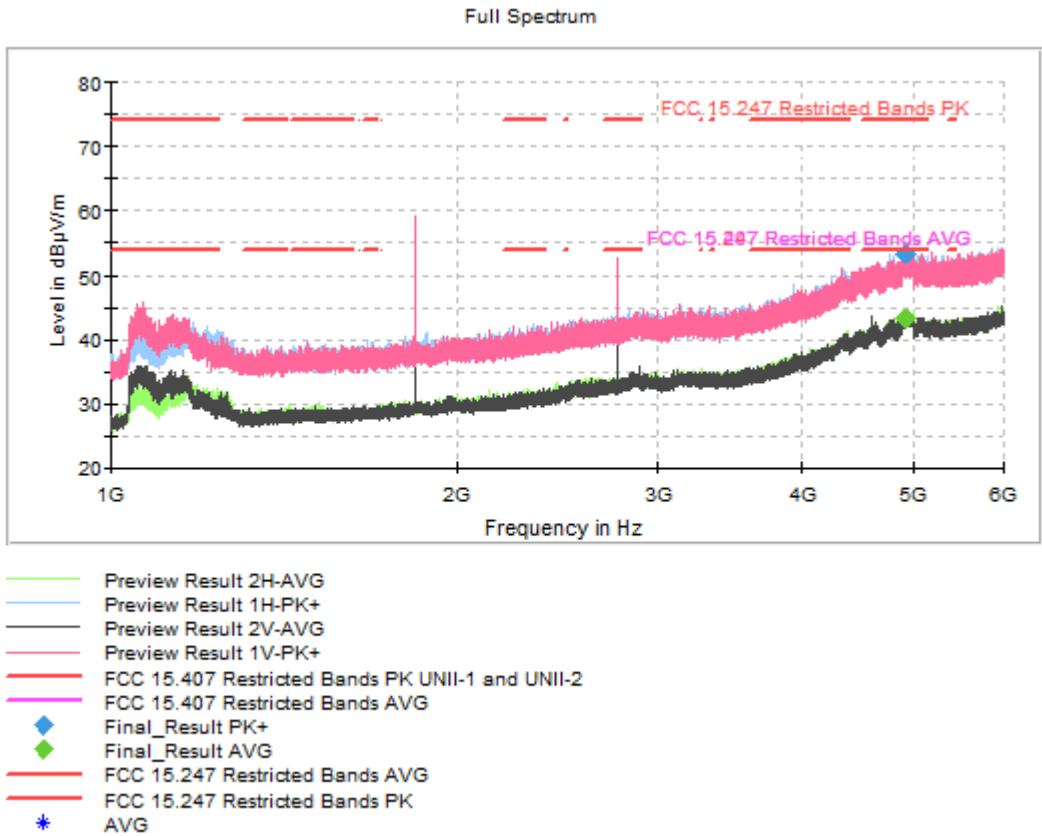
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	1 GHz - 6 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 d

Frequency Range GHz = [1, 6] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 921.50000
Mode = SISO Active Port = 1

Images:



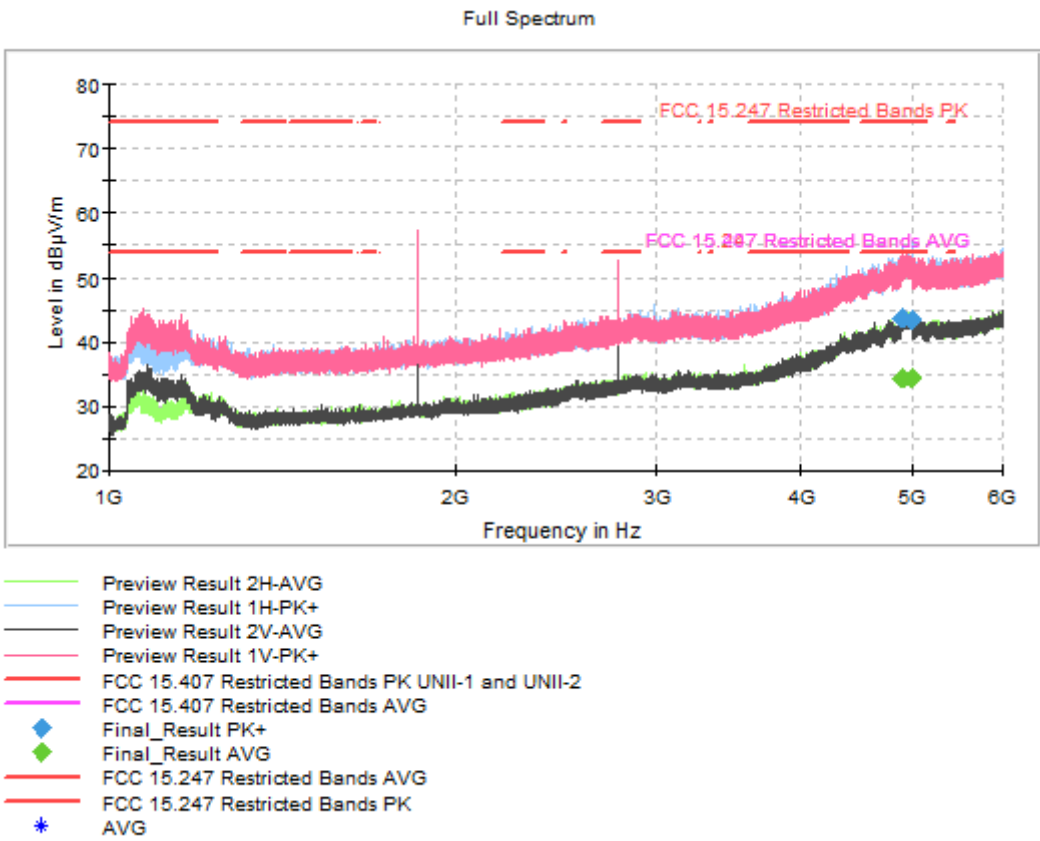
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	1 GHz - 6 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 d

Frequency Range GHz = [1, 6] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 927.70000
Mode = SISO Active Port = 1

Images:



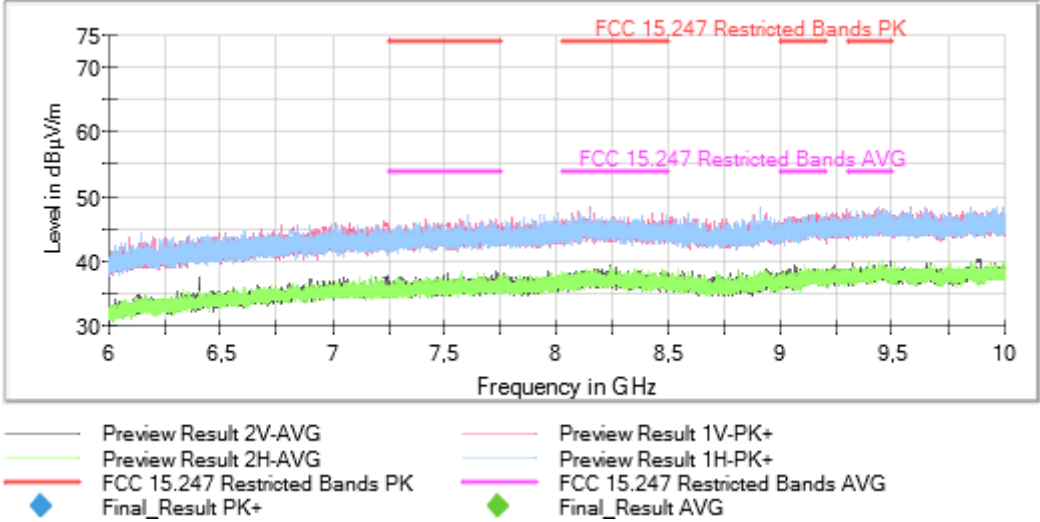
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	1 GHz - 6 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 d

Frequency Range GHz = [6, 10] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 915.30000
Mode = SISO Active Port = 1

Images:

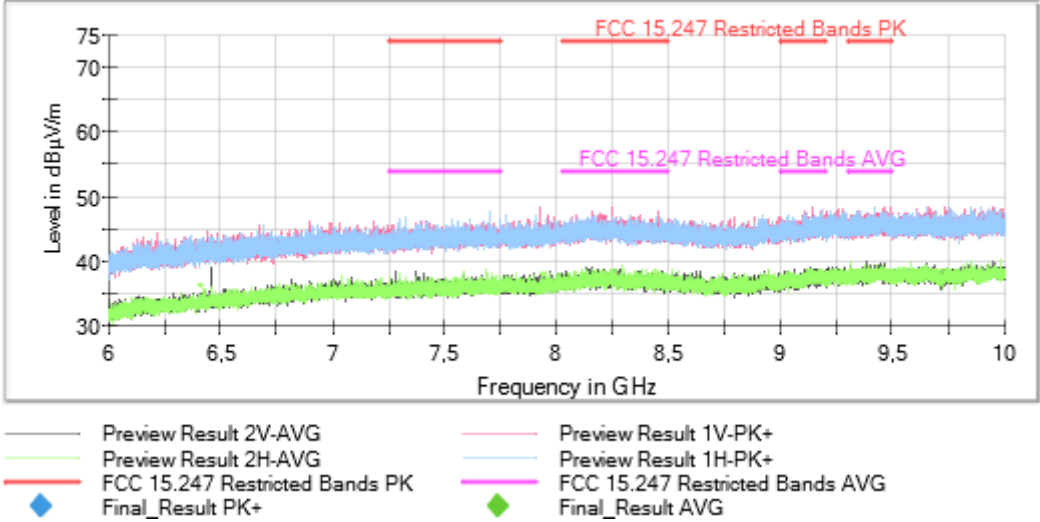


Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSV 40]					
	6 GHz - 10 GHz	140 kHz	PK+ ; AVG	1 MHz	1 s	30 dB

Frequency Range GHz = [6, 10] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 921.50000
Mode = SISO Active Port = 1

Images:



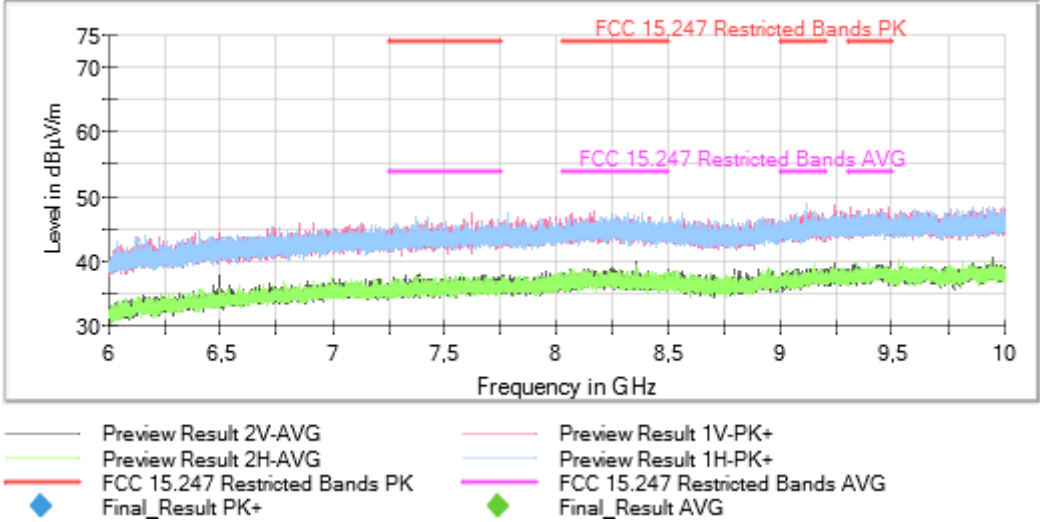
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSV 40]					
	6 GHz - 10 GHz	140 kHz	PK+ ; AVG	1 MHz	1 s	30 dB

Frequency Range GHz = [6, 10] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 927.70000
Mode = SISO Active Port = 1

Images:



Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSV40]					
	6 GHz - 10 GHz	140 kHz	PK+ ; AVG	1 MHz	1 s	30 dB

Appendix C: Test results. LoRa US902-928

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TEST CONDITIONS88

Occupied Channel Bandwidth 99%90

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TEST CONDITIONS

(*): Data provided by the client.

POWER SUPPLY (*):

Vnominal: 5 V
Type of Power Supply: DC (USB-C).

ANTENNA (*):

Type of Antenna LoRa 900 MHz: Omnidirectional external antenna.
Maximum Declared External Antenna Gain LoRa 900 MHz: -0.2 dBi
Type of Antenna LoRa 900 MHz: FPC omnidirectional internal antenna.
Maximum Declared FPC Antenna Gain LoRa 900 MHz: 1.71 dBi

According preliminary radiated spurious emissions the FPC Antenna is a worst case.

TEST FREQUENCIES (*):

Modulation	Low Channel:	Middle Channel	High Channel
LoRa US902-928	903 MHz	915 MHz	927 MHz

During transmitter test the EUT was controlled by a SW tool provided by the client to operate in a continuous transmit mode on the modulation schemes and test channels as required.
Tests have been performed using these frequencies, being the results representative values for 902.3, 914.9 and 927.7 MHz, except Band Edge test where 902.3 and 927.7MHz have been set to perform this measurement.

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and it is connected to the TS8997 using a low loss RF cable. The reading of the spectrum analyser is corrected taking into account the cable loss.



RADIATED MEASUREMENTS:

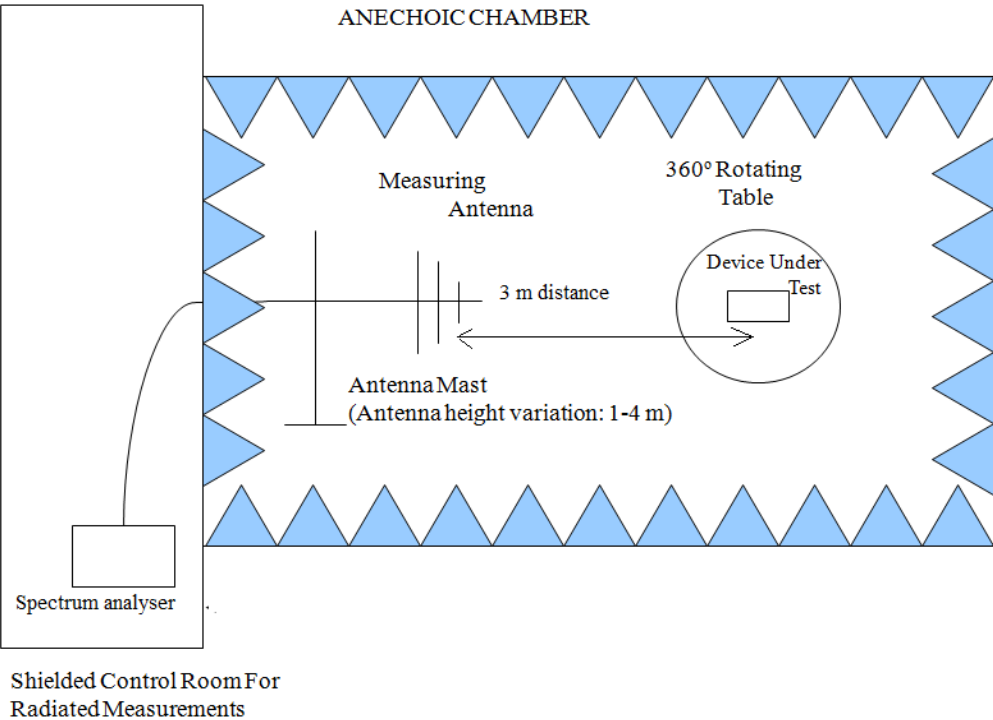
All radiated tests were performed in a semi-anechoic chamber. The measurement antenna (Bilog antenna for the range between 30 MHz to 1000 MHz and 1 GHz-10 GHz Double ridge horn antenna) is situated at a distance of 3 m.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height (Bilog antenna and Double ridge horn antenna) was varied from 1 to 4 meters to find the maximum radiated emission.

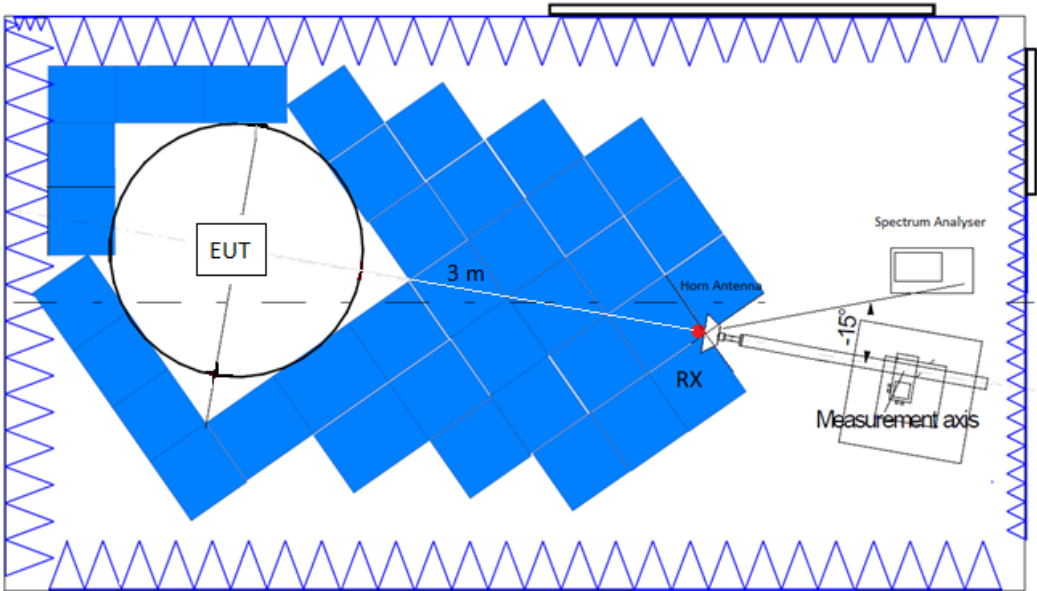
Measurements were made in both horizontal and vertical planes of polarization.

A resolution bandwidth/video bandwidth of 100 kHz / 300 kHz was used for frequencies below 1 GHz and 1 MHz / 3 MHz for frequencies above 1 GHz.

Radiated measurements setup from 30 MHz to 1 GHz:



Radiated measurements setup from 1 GHz to 10 GHz:



Occupied Channel Bandwidth 99%

Limits

* RSS-Gen Clause 6.7:

The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.

The detector of the spectrum analyzer shall be set to “Sample”. However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or “Max Hold”) may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.

The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Modulation: LoRa

Mode: SISO

Results

Freq (MHz)	Occ Ch BW (kHz)
903	128.75
915	128.8
927	128.65

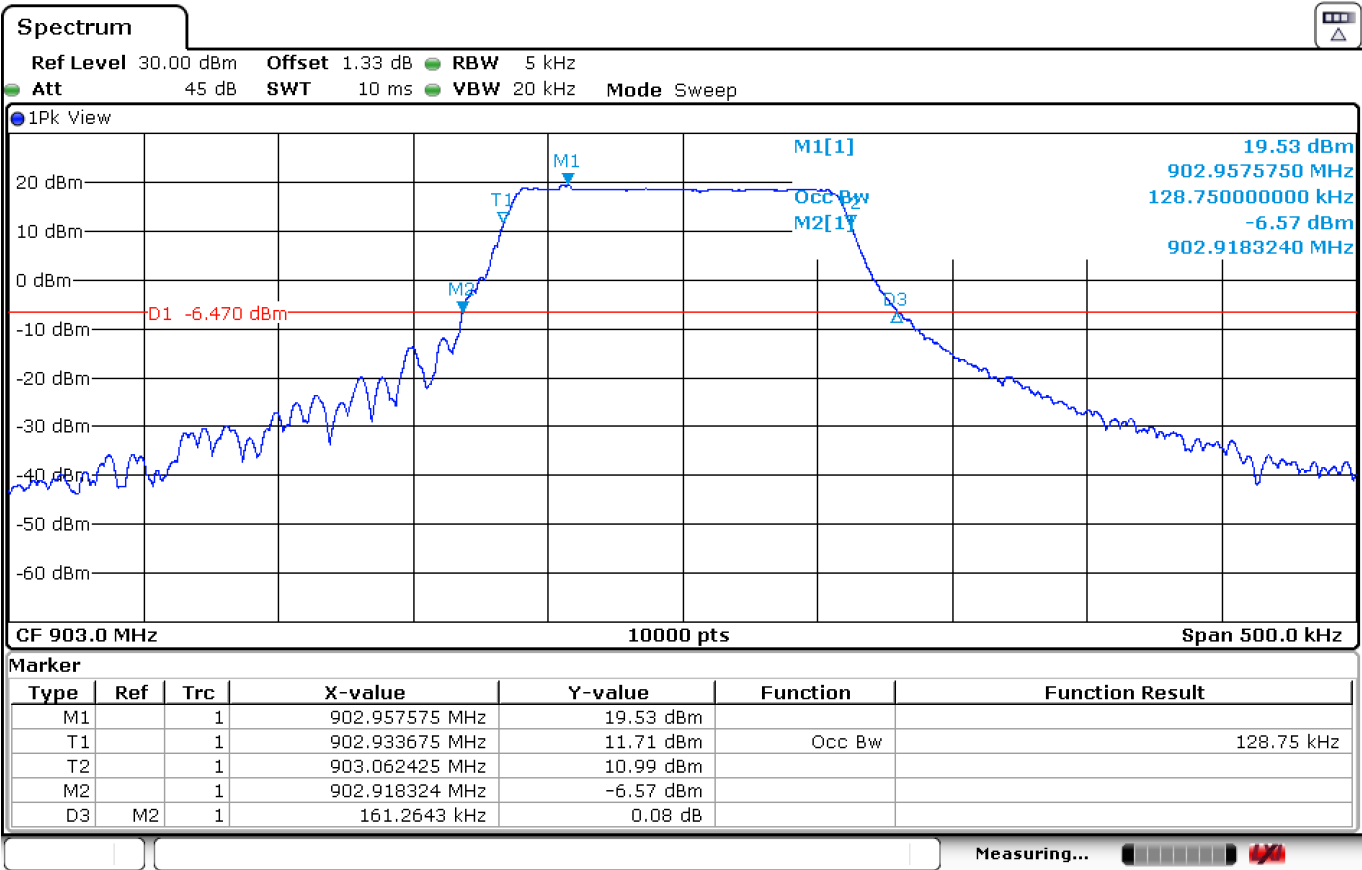
Verdict

Pass

Attachments

Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 903
Mode = SISO Active Port = 1

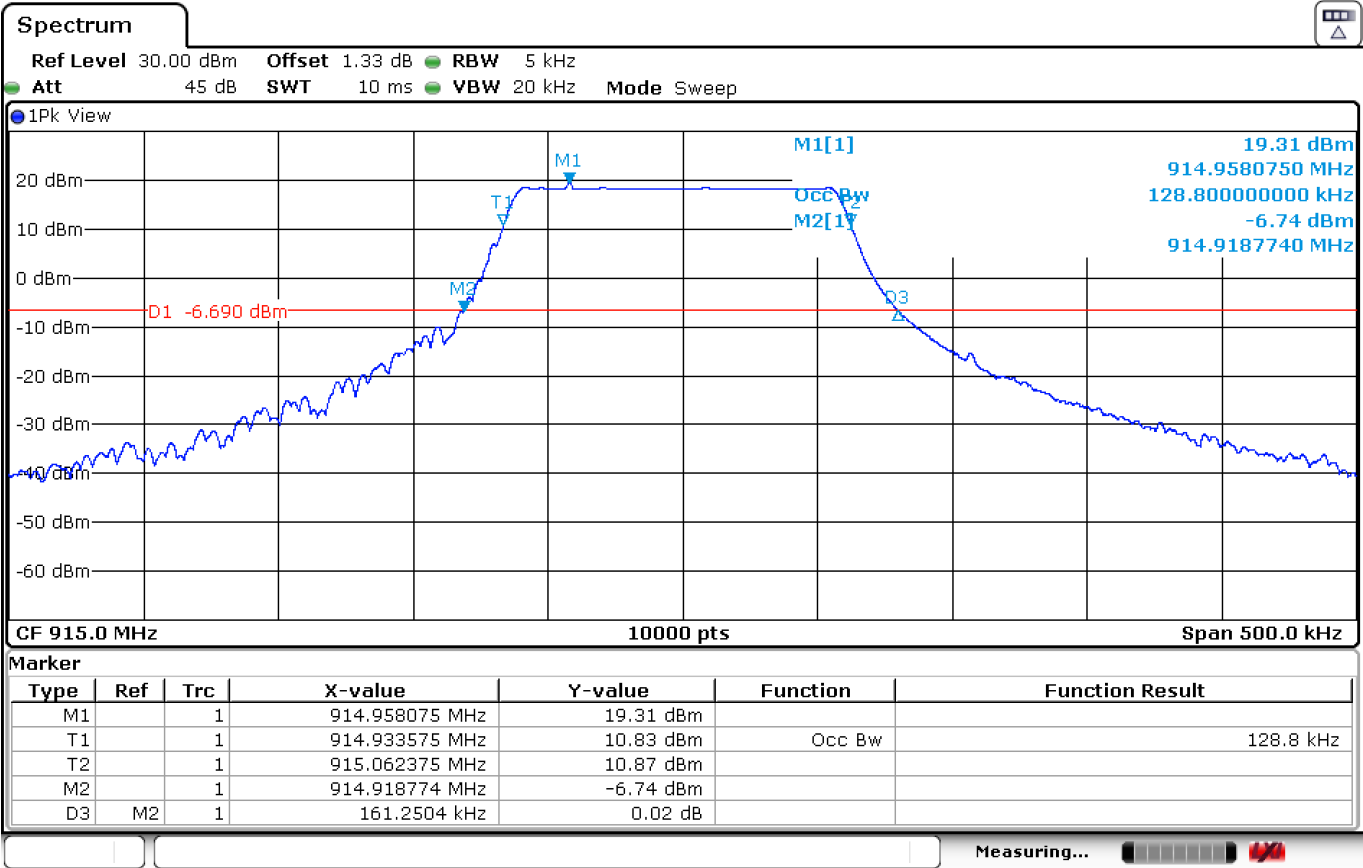
Images:



Date: 21.FEB.2024 13:21:23

Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 915
Mode = SISO Active Port = 1

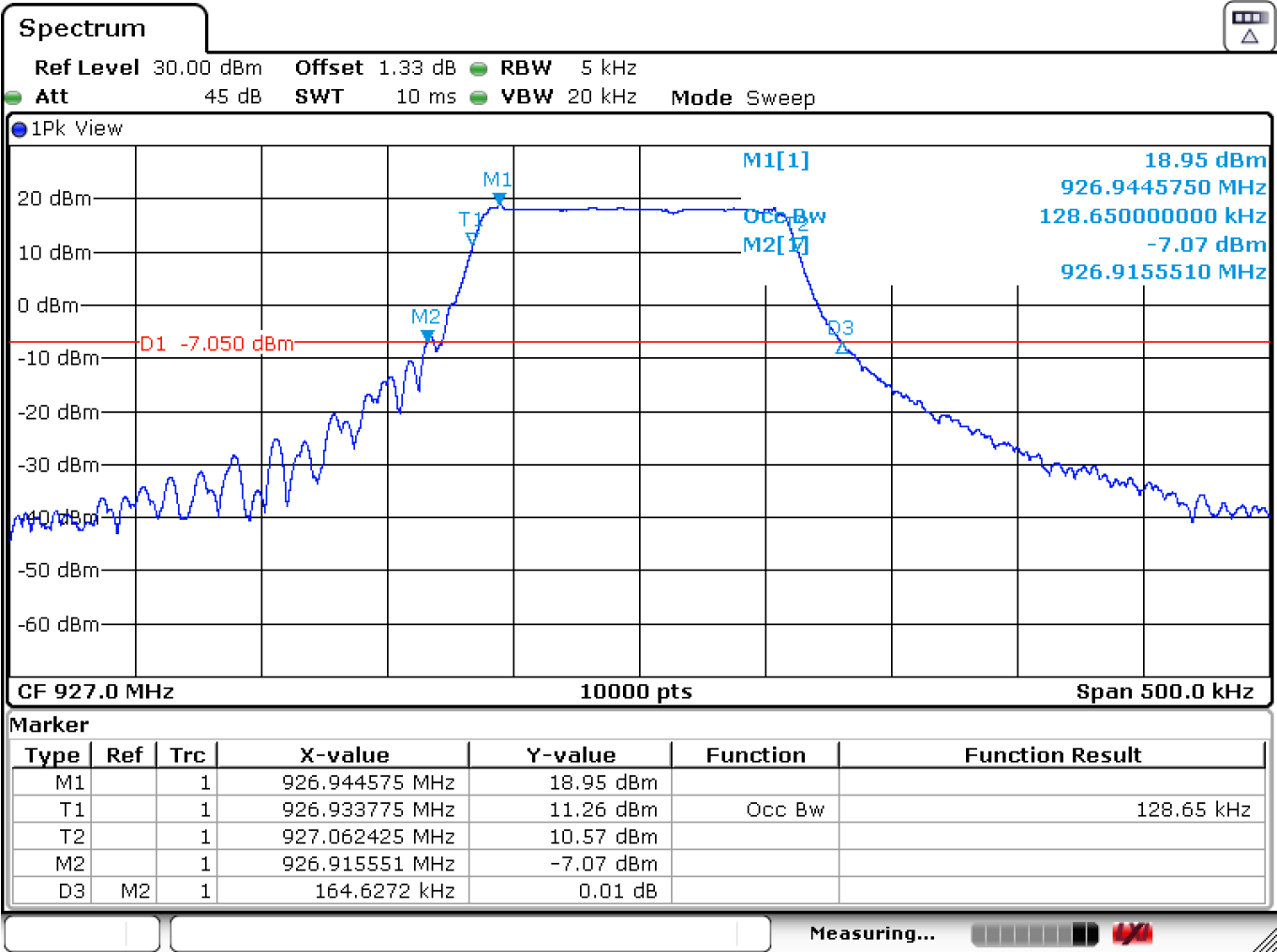
Images:



Date: 21.FEB.2024 13:17:52

Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 927
Mode = SISO Active Port = 1

Images:



Date: 21.FEB.2024 13:09:58

FCC 15.247 (a)(1) / RSS-247 5.1 (b) 20 dB Bandwidth and Carrier frequency separation

Limits

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

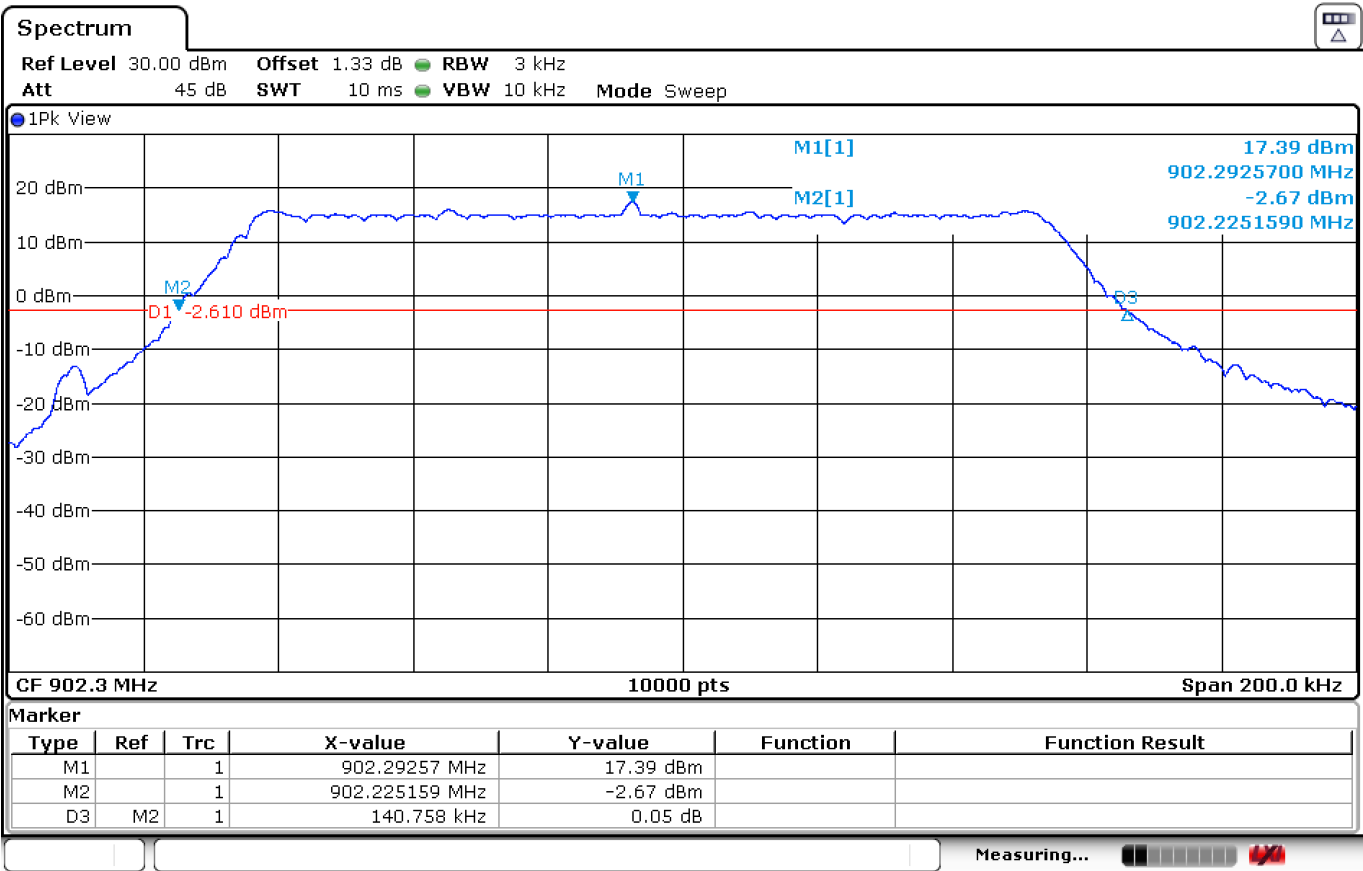
Results

	Low Channel	Middle Channel	High Channel
20 dB Spectrum bandwidth (kHz)	140.758	139.0447	144.6557
Measurement uncertainty (kHz)	< ±0.61		

Verdict

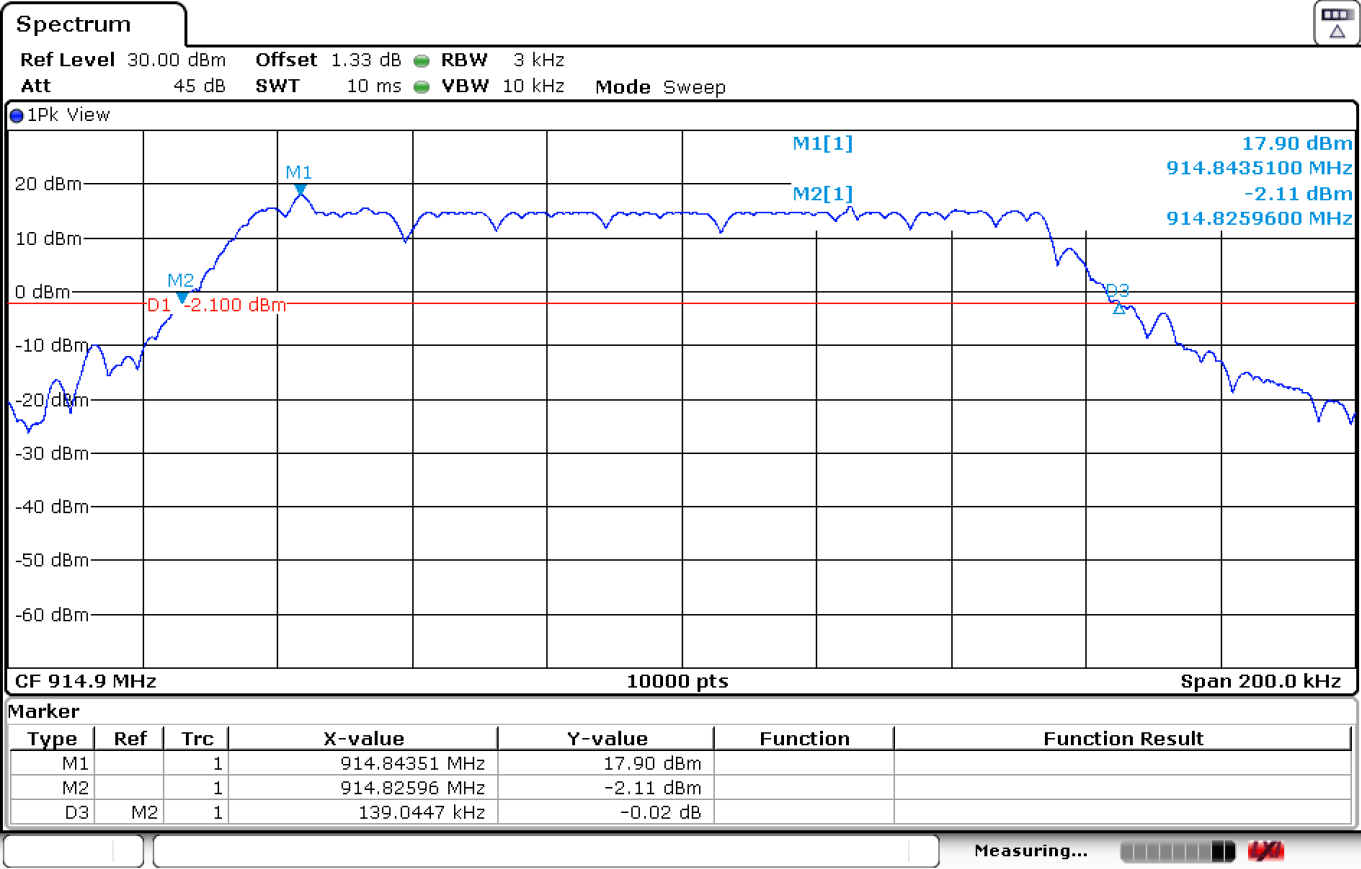
PASS

- Low Channel:



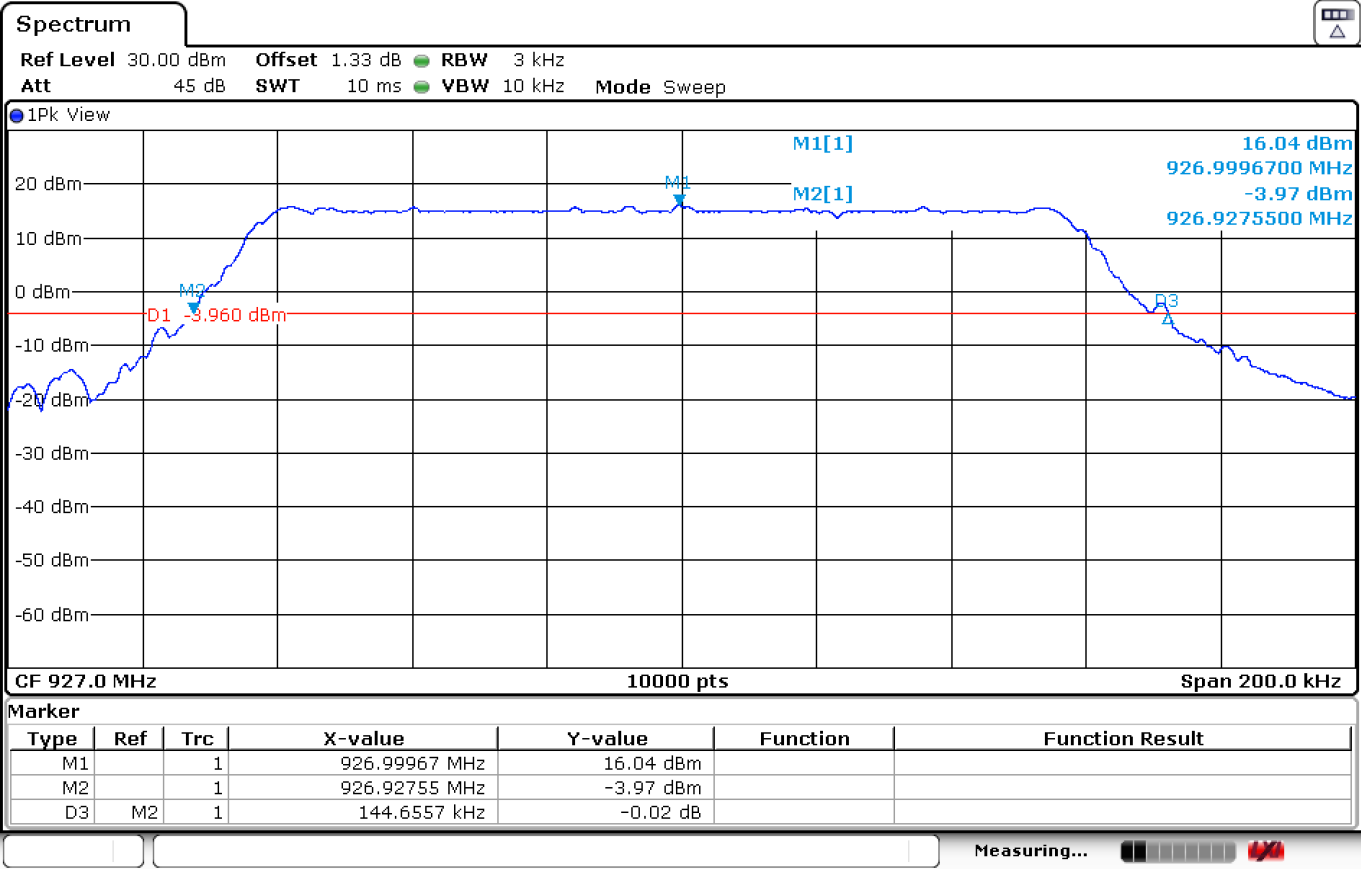
Date: 21.FEB.2024 10:31:40

- Middle Channel:



Date: 21.FEB.2024 10:43:28

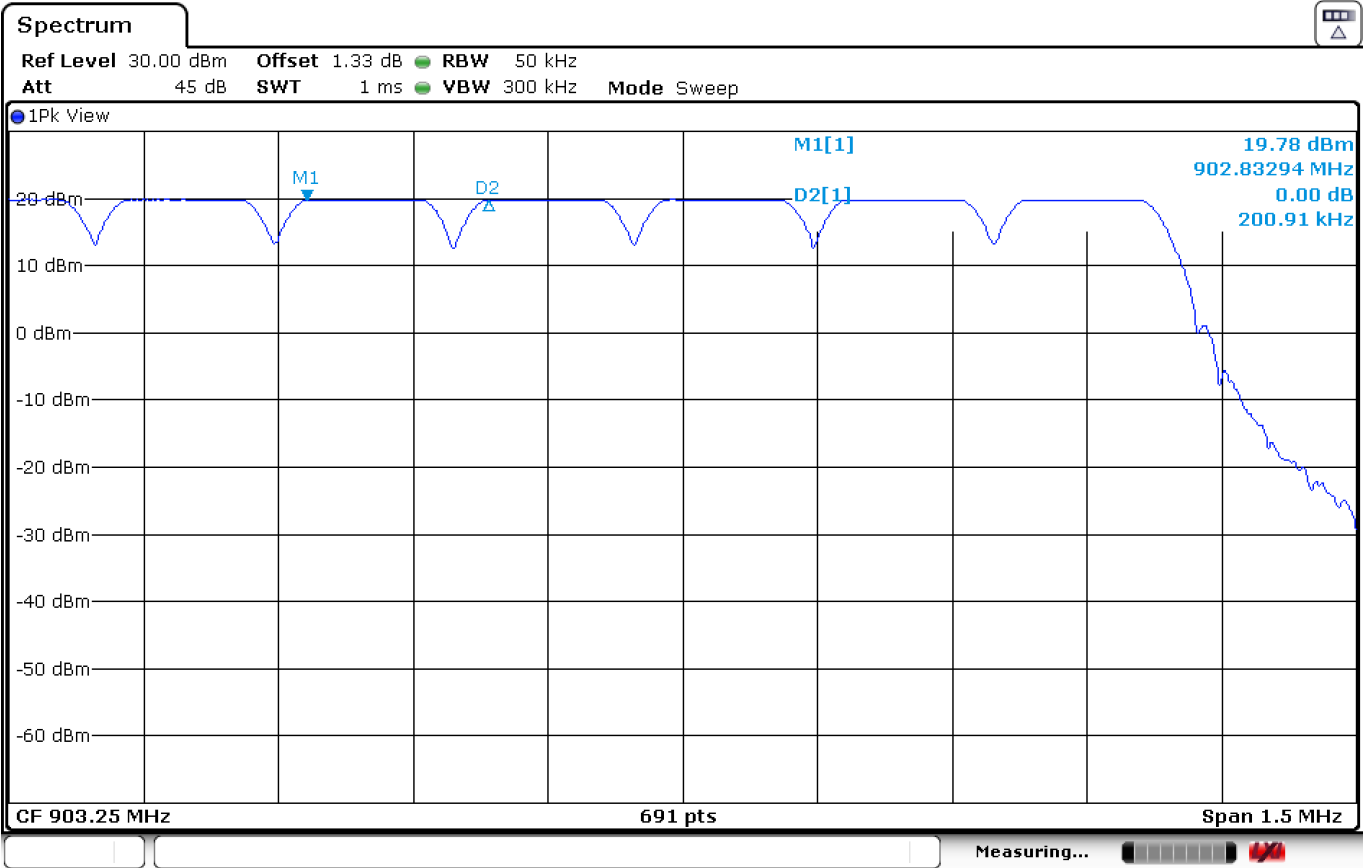
- High Channel:



Date: 21.FEB.2024 12:34:39

Carrier frequency separation:

200.91 kHz



Date: 21.FEB.2024 10:03:28

The hopping-channel carrier frequencies are separated by a minimum of the 20 dB bandwidth of the hopping channel.

Verdict

PASS

FCC 15.247 (f) / RSS-247 5.3 (a) Time of occupancy (Dwell Time) for hybrid systems

Limits

Hybrid systems are those that employ a combination of both frequency hopping and digital modulation techniques. The frequency hopping operation of the hybrid system, with the direct sequence or digital modulation operation turned-off, shall have an average time of occupancy on any frequency not to exceed 0.4 seconds within a time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4.

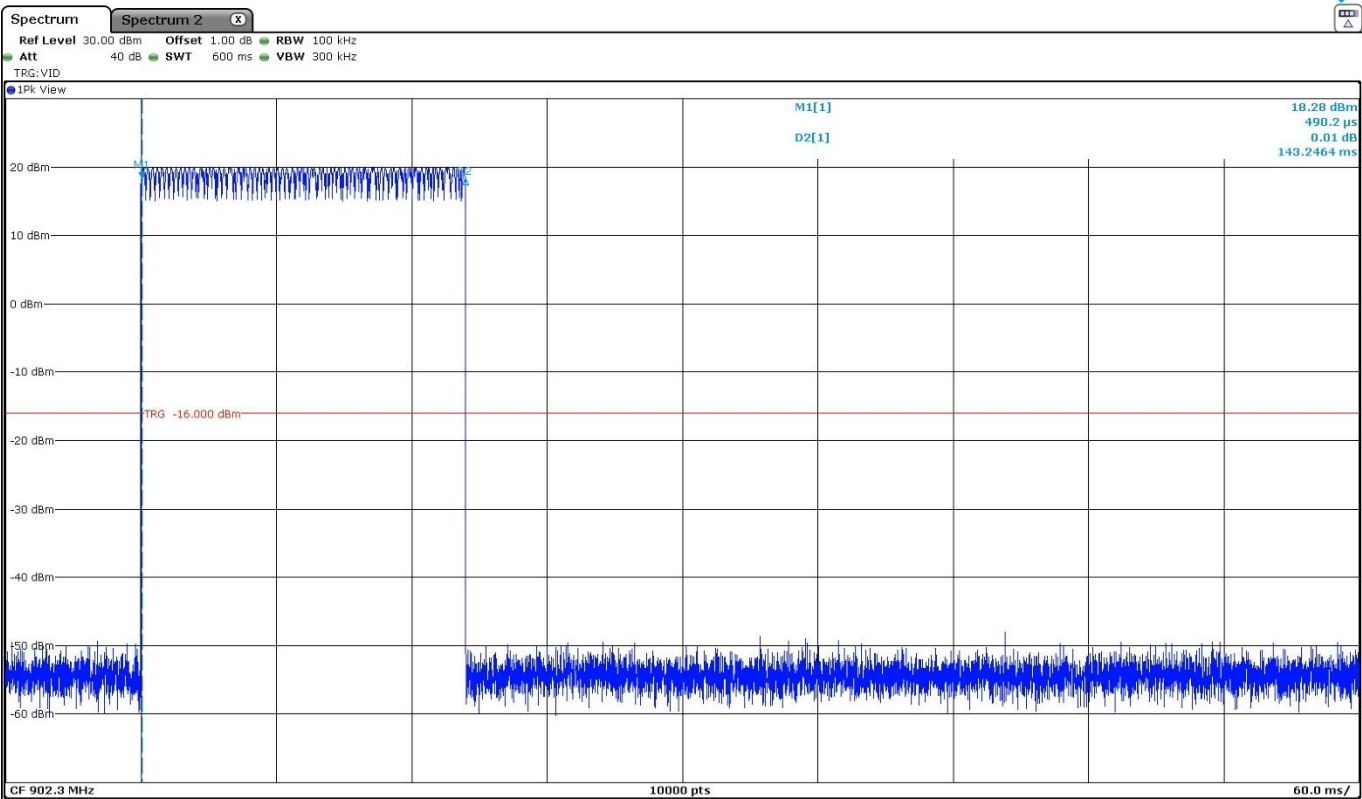
Results

Operation as a frequency hopping system using 8 hopping channels:

- Time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4:
 $8 \text{ hopping channels} \times 0.4 \text{ s} = 3.2 \text{ s}$

Measurement is performed over a period of 0.6 seconds (worst case).

- TX time per hop: 143.2464 ms (see next plots)
- Number of hops over a period of 0.6 s: 1 (see next plots)



- **Average Time of Occupancy** = $143.2464 \text{ ms} \times 1 \text{ hops} = 143.2464 \text{ ms per } 0.6 \text{ s.}$

Average Time of Occupancy is less than 0.4 s per time period in seconds equal to the number of hopping frequencies employed (8) multiplied by 0.4.

Verdict

PASS

RSS-247 5.3 (b) / FCC 15.247 (f) Power spectral density for hybrid systems

Limits

Hybrid systems are those that employ a combination of both frequency hopping and digital modulation techniques.

The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Modulation: LoRa

Mode: SISO

Results

The maximum power spectral density level was measured using the method AVGPST-2 according to clause 11.10.5 (trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction) of ANSI C.63.10-2013.

Measured Duty Cycle: $x = 0.55252411$

Duty Cycle Correction: $10 \times \log(1/x) = 2.576$

Freq (MHz)	PSD (dBm)	PSD with Duty Cycle correction (dBm)
903	3.47	6.046
915	3.87	6.446
927	3.69	6.266

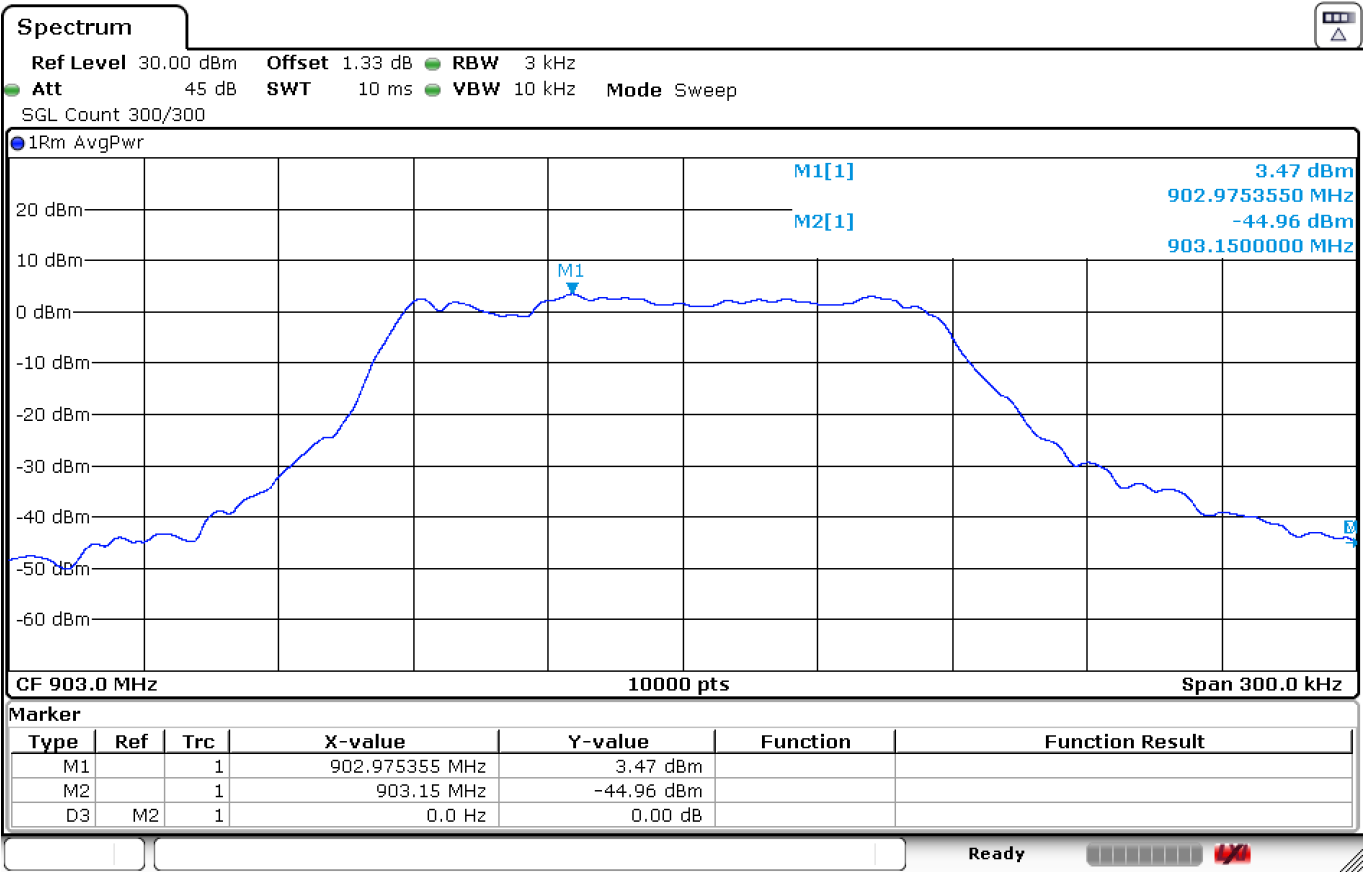
Verdict

Pass

Attachments

Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 903
Mode = SISO Active Port = 1

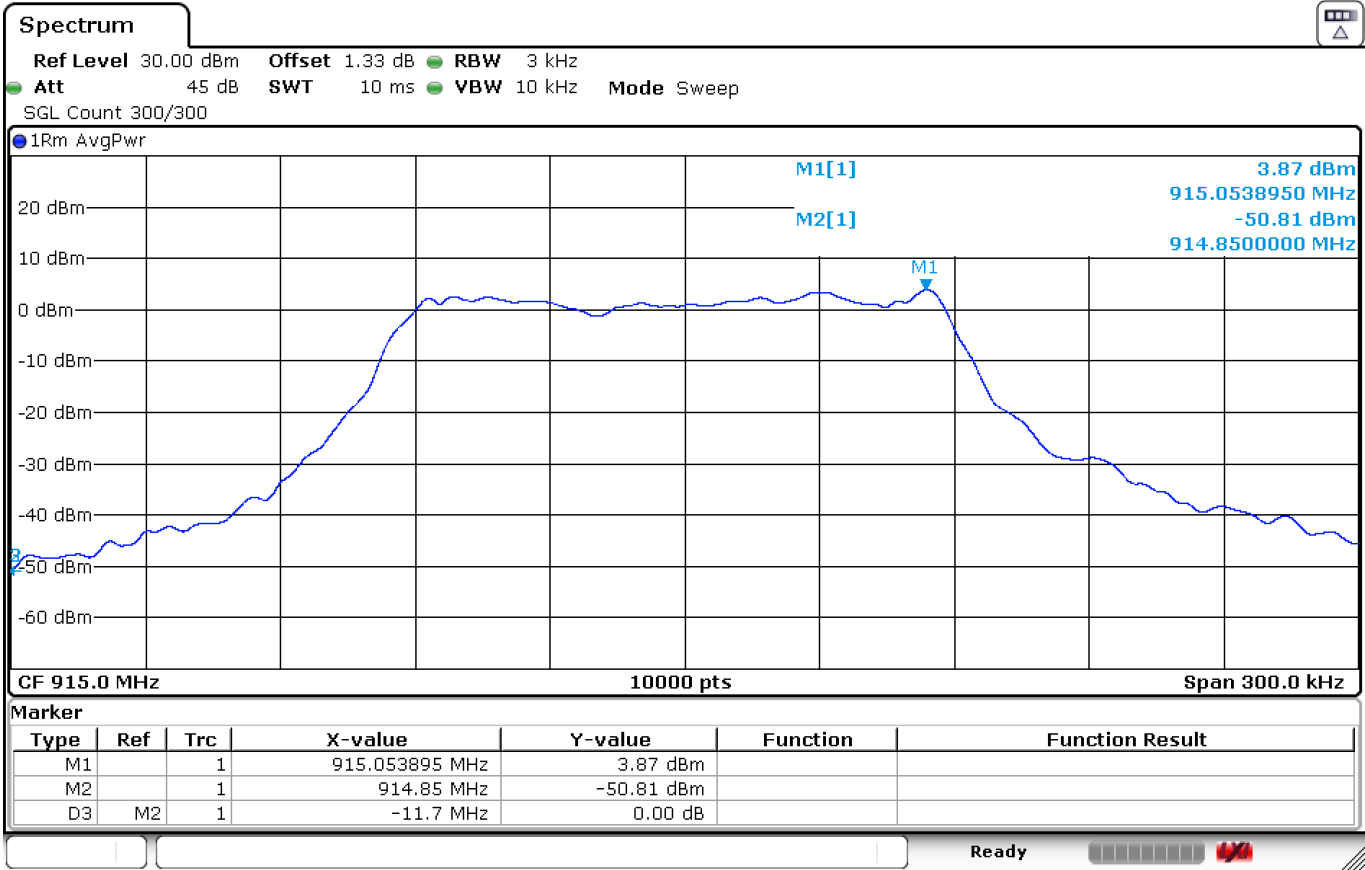
Images:



Date: 21.FEB.2024 13:32:56

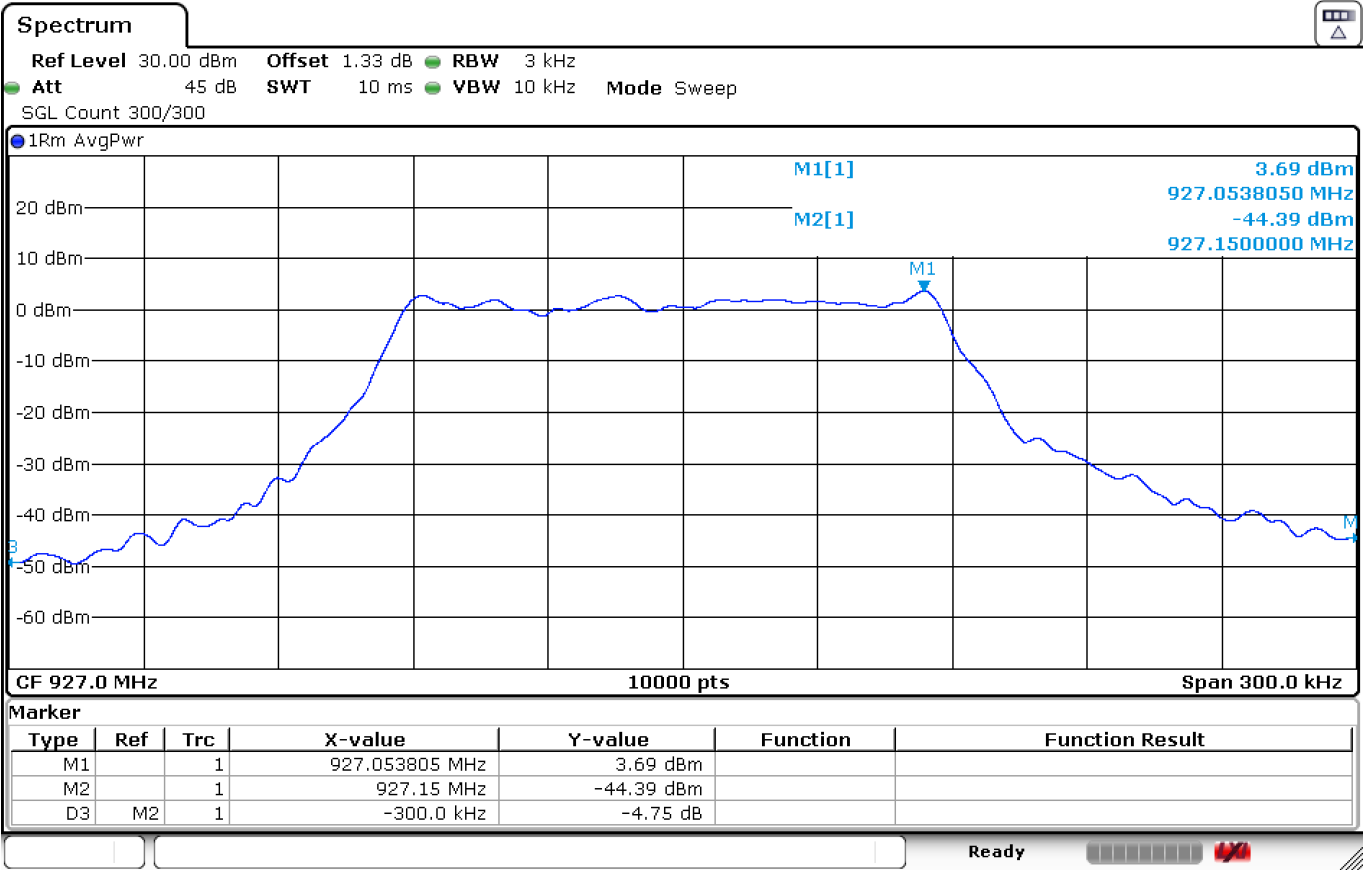
Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 915
Mode = SISO Active Port = 1

Images:



Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 927
Mode = SISO Active Port = 1

Images:



RSS-247 5.4 (d) / FCC 15.247 (b) (3) Maximum output power and antenna gain for hybrid systems

Limits

* FCC 15.247:
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. Hybrid systems shall comply with the 1 W limit.

* RSS-247:
For FHSS operating in the band 902-928 MHz, the maximum peak conducted output power shall not exceed 1.0 W, and the e.i.r.p. shall not exceed 4 W if the hop set uses 50 or more hopping channels; the maximum peak conducted output power shall not exceed 0.25 W and the e.i.r.p. shall not exceed 1 W if the hop set uses less than 50 hopping channels.
As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power.

Modulation: LoRa
Mode: SISO

Results

The maximum conducted (average) output power was measured using the method AVGSA-2 according to clause 11.9.2.2.4 (trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction) of ANSI C.63.10-2013.

The e.i.r.p. power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

Maximum Declared Antenna Gain: 1.71 dBi

Measured Duty Cycle: $x = 0.55252411$
Duty Cycle Correction: $10 \times \log(1/x) = 2.576$

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

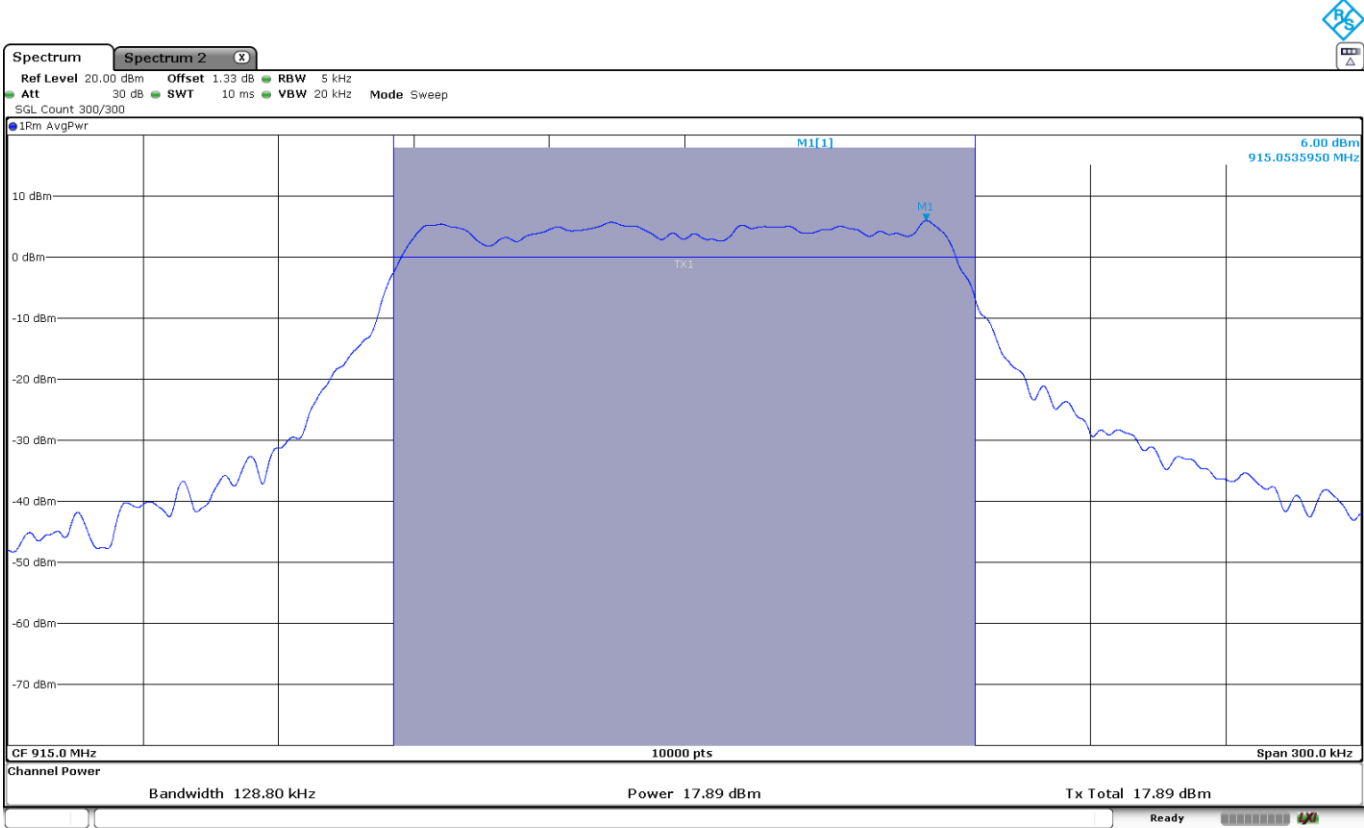
Freq (MHz)	Power (dBm)	Power with Duty Cycle correction (dBm)	E.I.R.P. (dBm)
903	17.59	20.17	21.88
915	17.89	20.47	22.18
927	17.26	19.84	21.55

Verdict

Pass

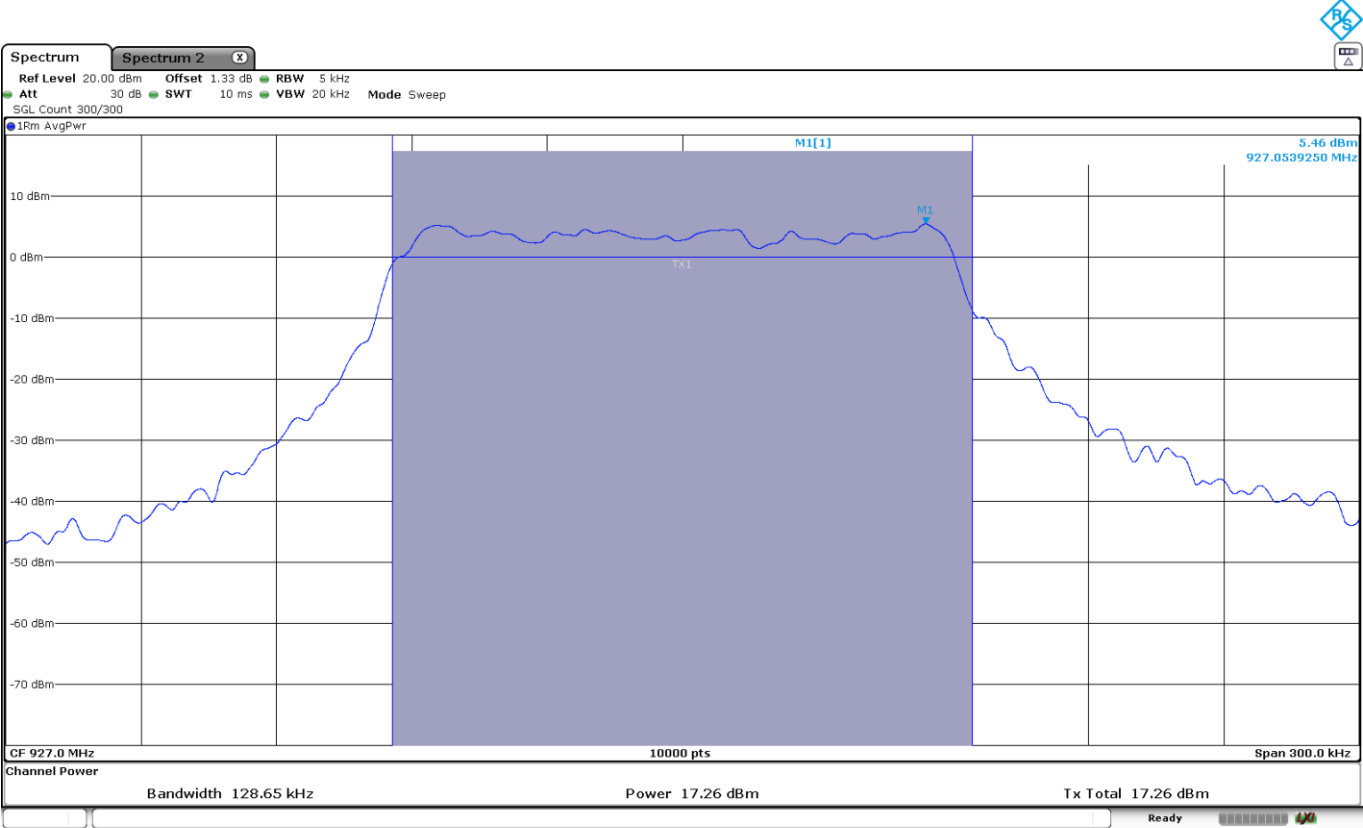
Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 915
Mode = SISO Active Port = 1

Images:



Equipment Type = Hybrid Bandwidth MHz = 1
Modulation = LoRa Frequency MHz = 927
Mode = SISO Active Port = 1

Images:



RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter)

Limits

In any 100 kHz bandwidths outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Modulation: LoRa

Mode: SISO

Results

The attenuation of highest emissions at the band-edge is more than 30 dB respect to the highest level of the desired power.

- Hopping OFF:

Equipment	BW (MHz)	Channel Frequency (MHz)	Port	Frequency (MHz)	Inband Peak Lvl (dBm)
Hybrid	1	902.3	1	902.2485	20.09
		927.7		927.6585	19.70

- Hopping ON:

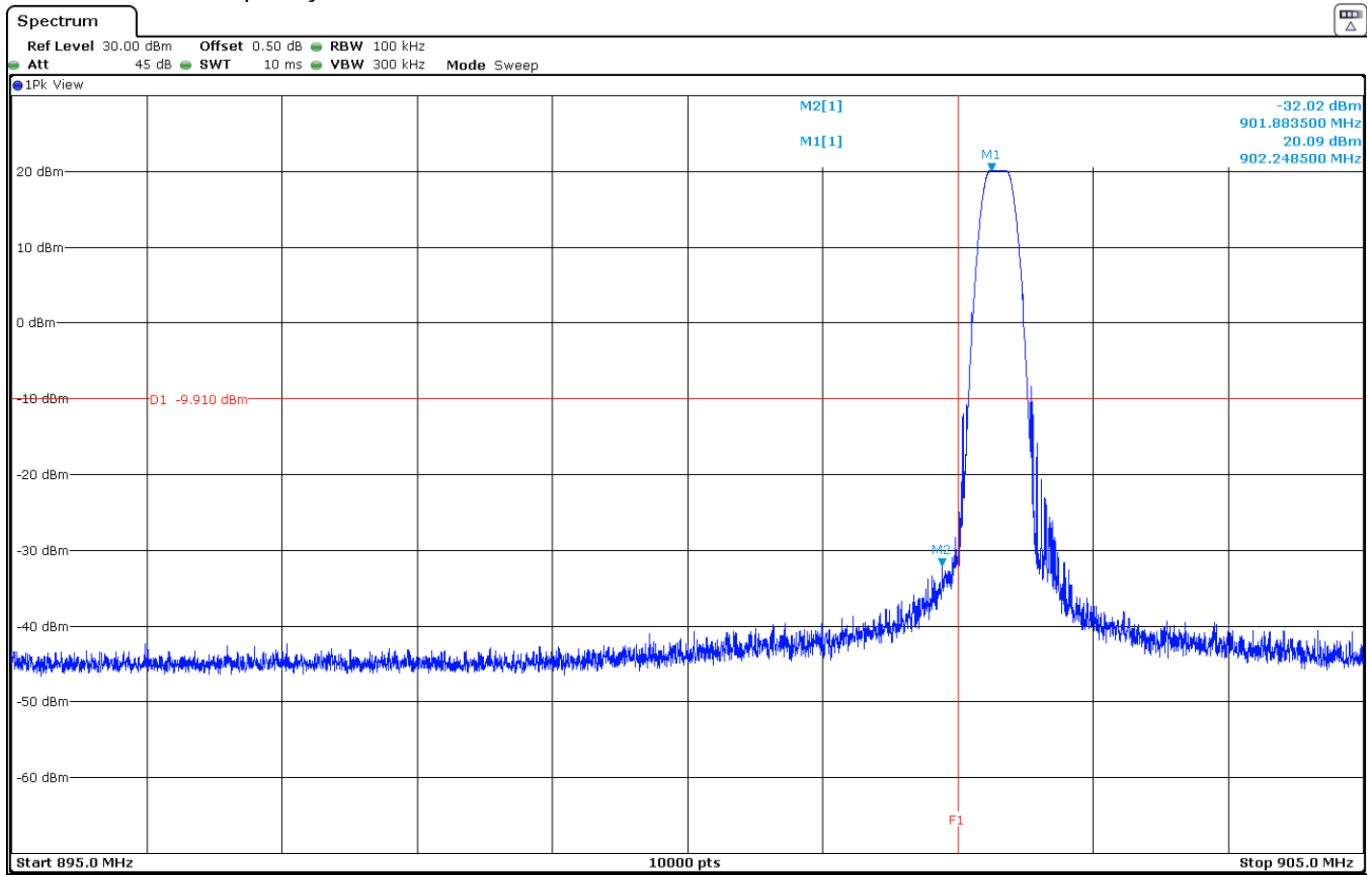
Equipment	BW (MHz)	Channel Frequency (MHz)	Port	Frequency (MHz)	Inband Peak Lvl (dBm)
Hybrid	1	902.3	1	902.2435	20.21
		927.7		926.2453	18.81

Verdict

Pass

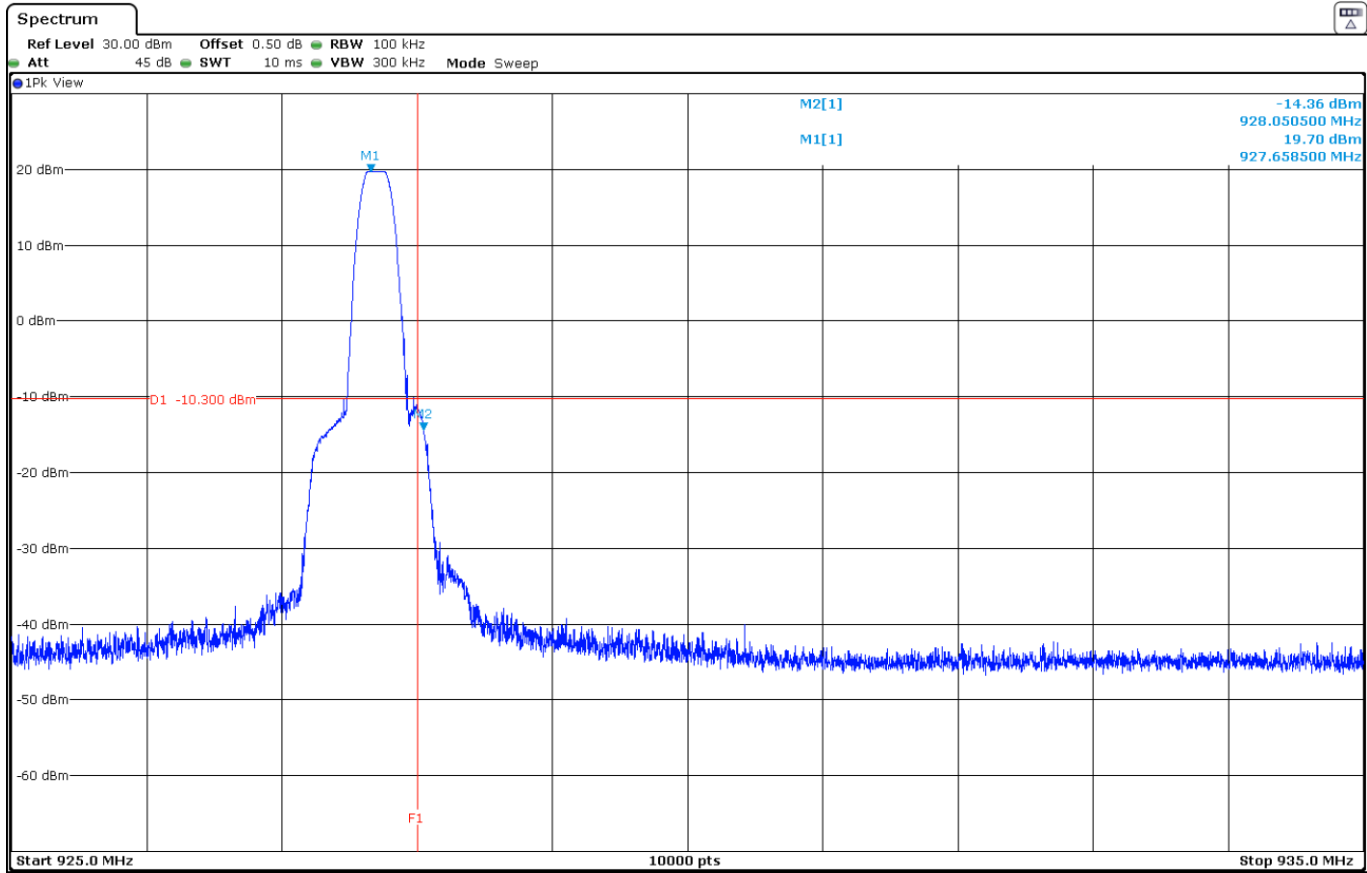
Attachments

- Hopping OFF:
- Low Frequency Section:

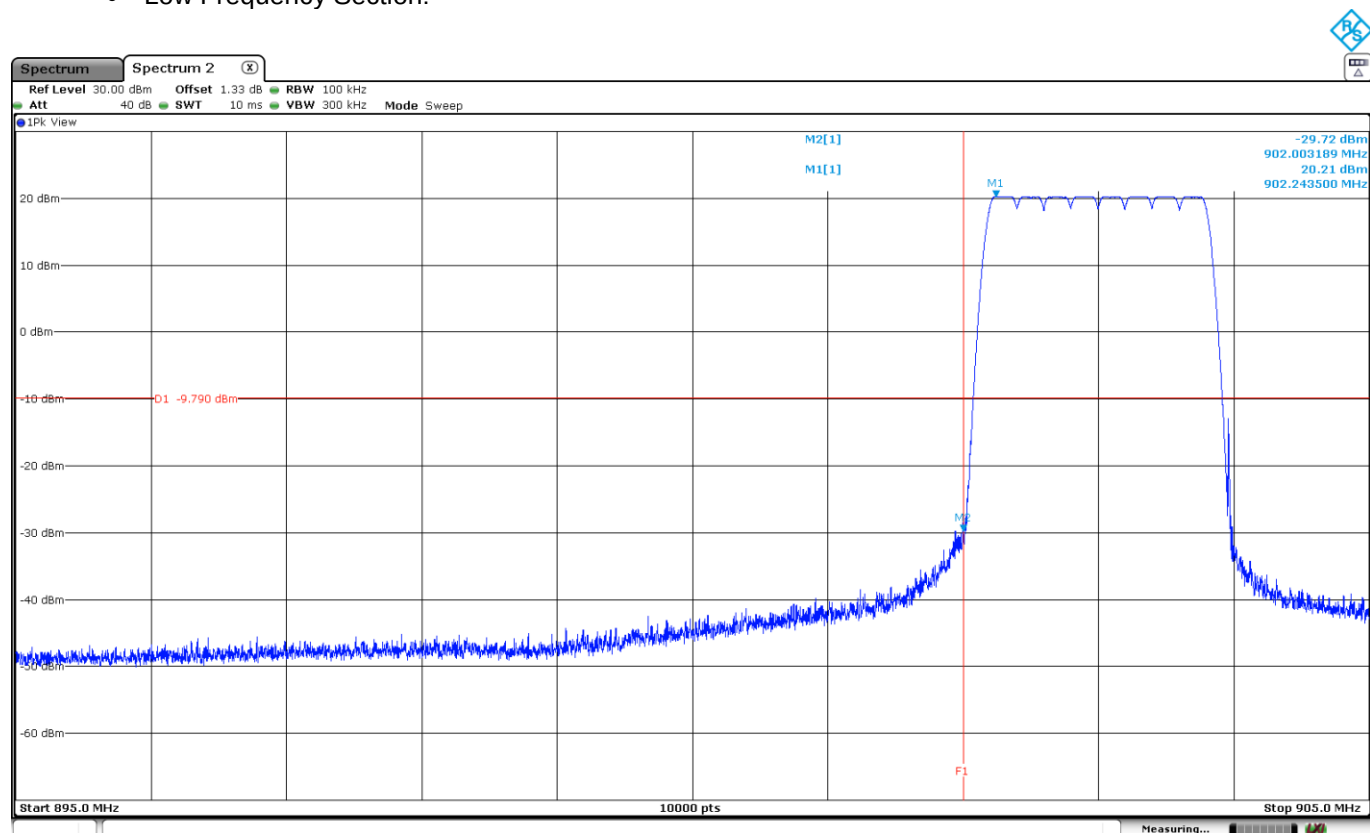


- Hopping OFF:

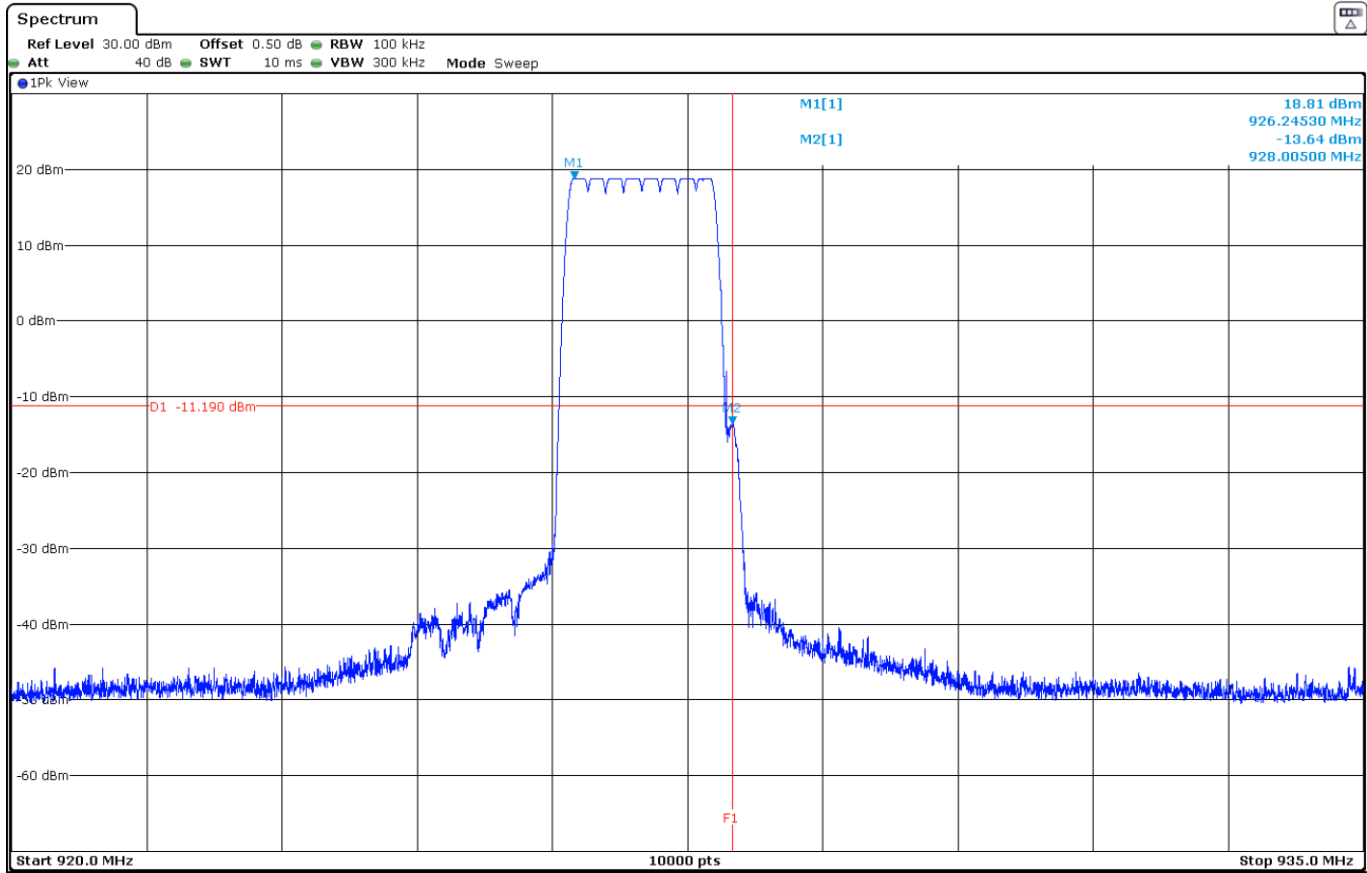
- High Frequency Section:



- Low Frequency Section:



- Hopping ON:
- High Frequency Section:



RSS-247 5.5 / FCC 15.247 (d) [RSE] Emission limitations radiated (Transmitter)

Limits

* FCC 15.247:
Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)/RSS-Gen):

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

* RSS-247: Attenuation below the general field strength limits specified in RSS-Gen is not required.

Frequency range tested for Radiated emissions

Start frequency: no radiofrequency signal generated in the device found below 10th sub-armonic, no further investigation required.

Stop frequency: it has been performed the radiated spurious emissions until 10th armonic.

Modulation: LoRa

MIMO Mode: SISO

Results

Freq Rng (GHz)	Freq (MHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
[0.03, 1]	903	47.945	30.37	V	QP
[0.03, 1]	903	60.040	27.86	V	QP
[0.03, 1]	903	451.465	26.15	H	QP
[0.03, 1]	903	854.985	40.18	V	QP
[0.03, 1]	903	905.668	31.68	H	QP
[0.03, 1]	903	951.045	37.83	V	QP
[0.03, 1]	915	48.036	29.59	V	QP
[0.03, 1]	915	60.009	26.42	V	QP
[0.03, 1]	915	867.019	31.45	H	QP
[0.03, 1]	915	883.054	31.88	H	QP

Freq Rng (GHz)	Freq (MHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
[0.03, 1]	927	47.945	28.03	V	QP
[0.03, 1]		59.888	18.05	V	QP
[0.03, 1]		878.932	29.50	V	QP
[0.03, 1]		895.028	34.38	H	QP
[1, 6]	903	1806.100000	65.8	H	PK
	915	1829.900000	62.62	H	PK
		4905.200000	54.60	V	PK
		4905.200000	45.43	V	AVG
	927	1853.900	59.07	H	PK
		4911.700	54.74	H	PK
		4911.700	42.92	H	AVG
		4943.300	54.05	V	PK
		4943.300	42.91	V	AVG

Verdict

Pass

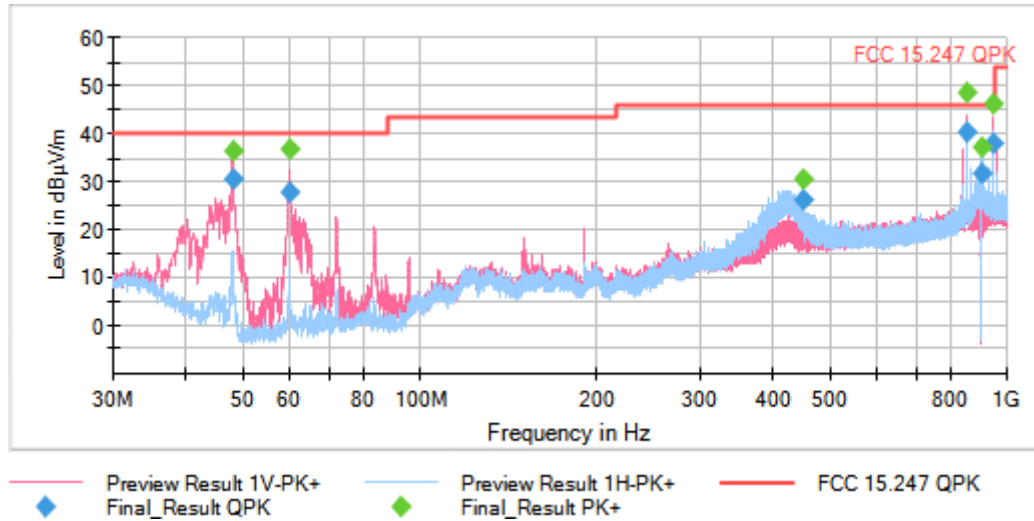
Attachments

Frequency Range GHz = [0.03, 1] Equipment Type = Hybrid

Modulation = LoRa Frequency MHz = 903

MIMO Mode = SISO Active Port = 1

Images:

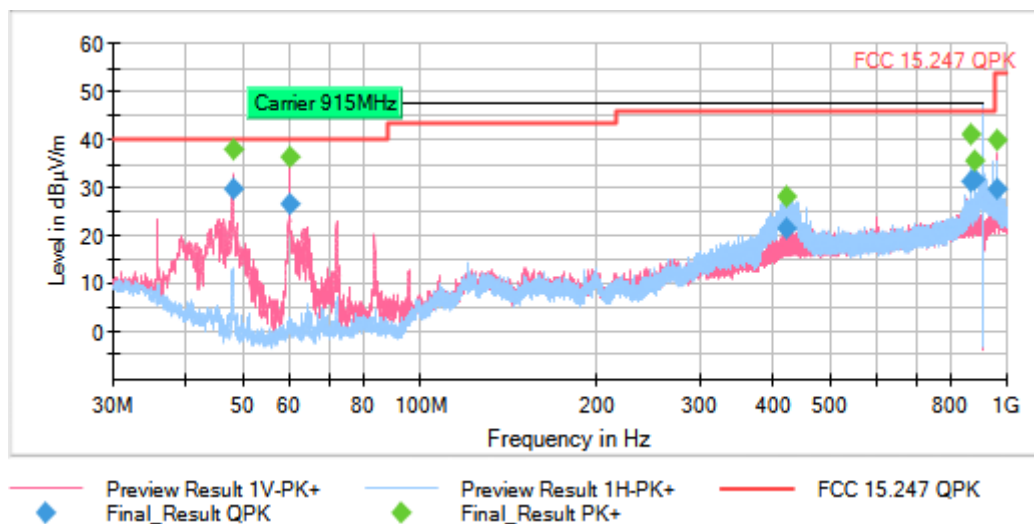


Frequency Range GHz = [0.03, 1] Equipment Type = Hybrid

Modulation = LoRa Frequency MHz = 915

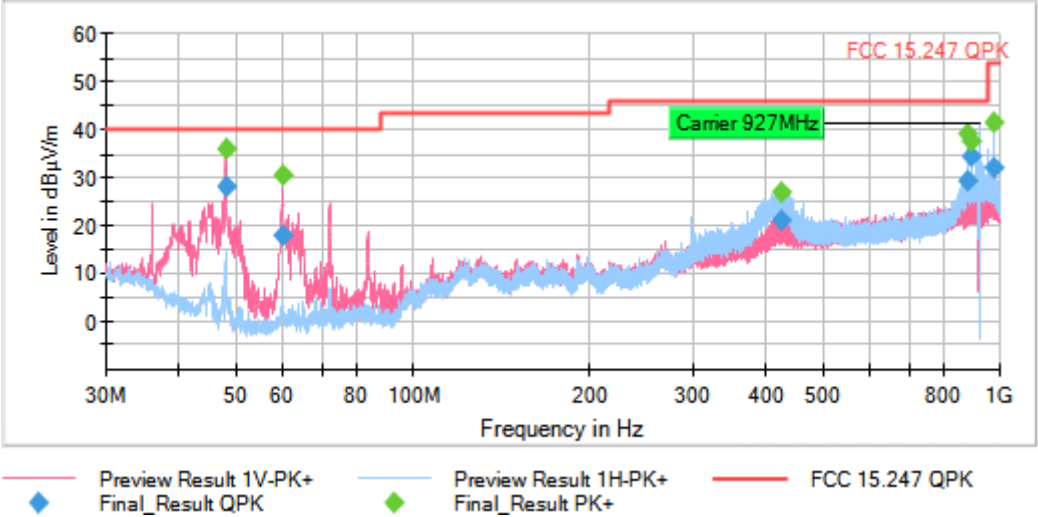
MIMO Mode = SISO Active Port = 1

Images:



Frequency Range GHz = [0.03, 1] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 927
MIMO Mode = SISO Active Port = 1

Images:



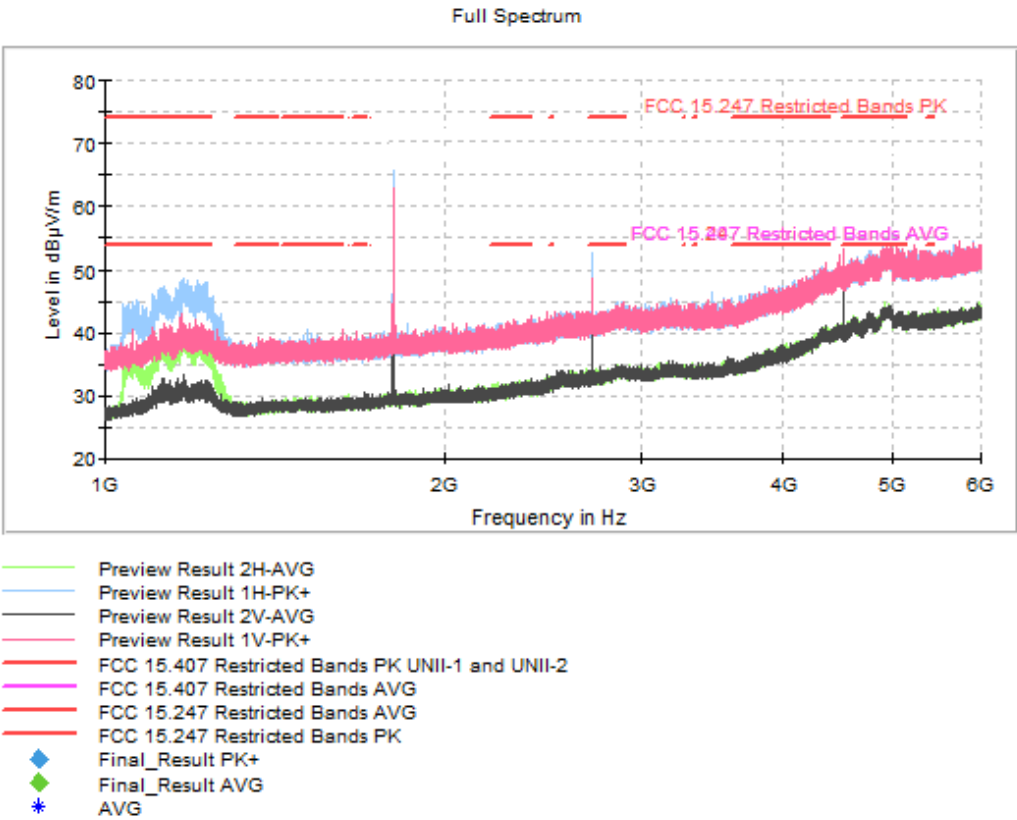
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	30 MHz - 1 GHz	30,312 kHz	PK+	100 kHz	1 s	0 dB

Frequency Range GHz = [1, 6] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 903
MIMO Mode = SISO Active Port = 1

Images:

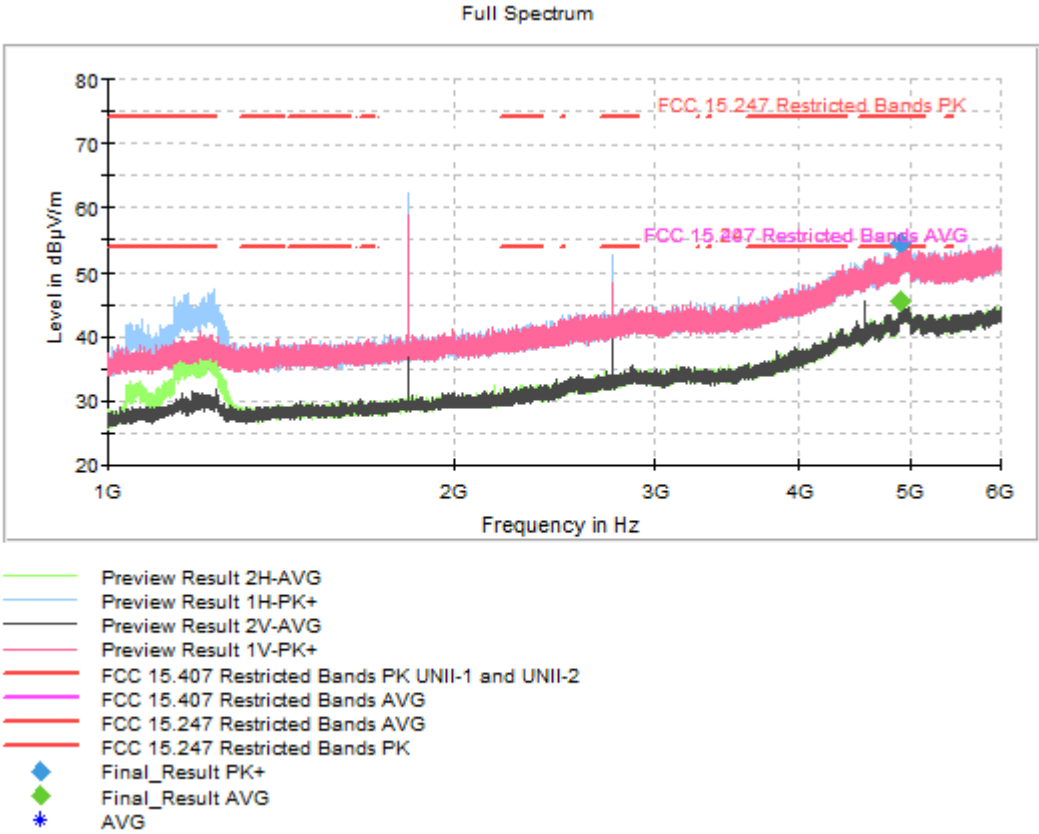


Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	1 GHz - 6 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency Range GHz = [1, 6] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 915
MIMO Mode = SISO Active Port = 1

Images:



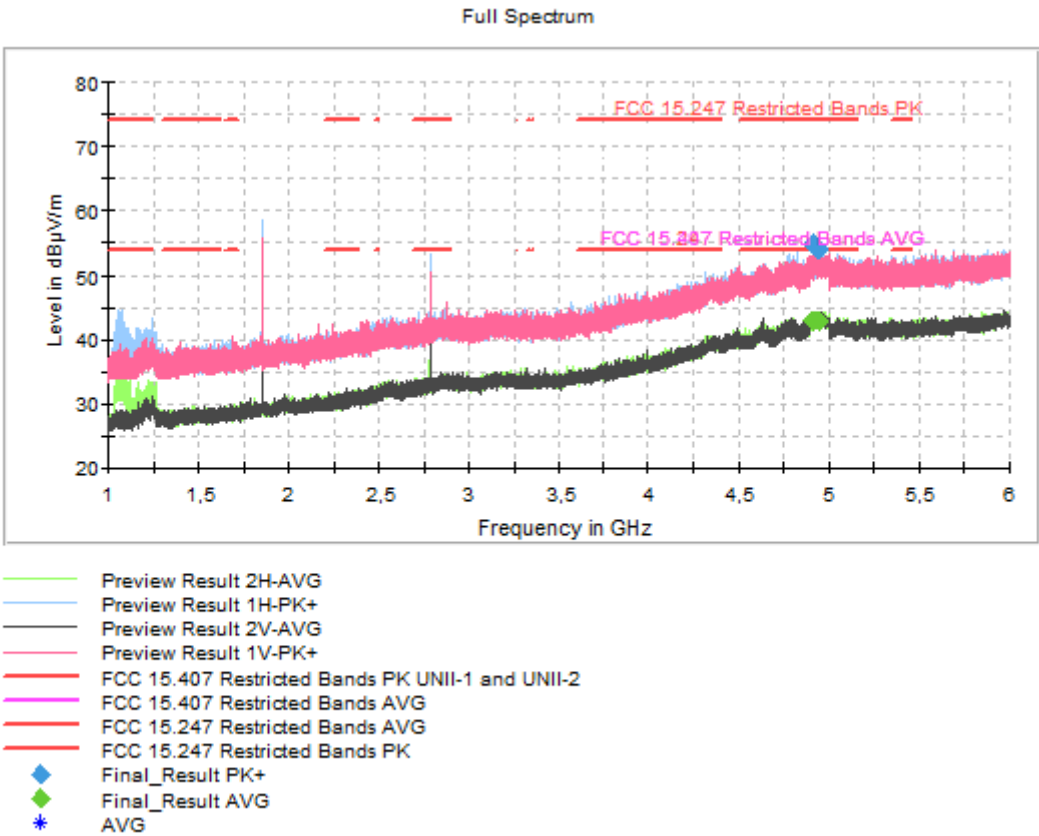
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	1 GHz - 6 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency Range GHz = [1, 6] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 927
MIMO Mode = SISO Active Port = 1

Images:



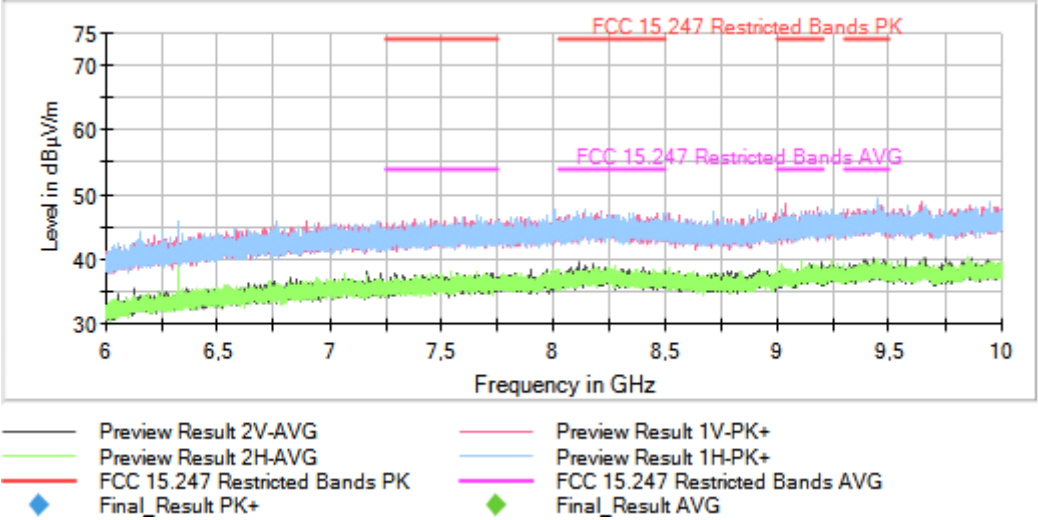
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	1 GHz - 6 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

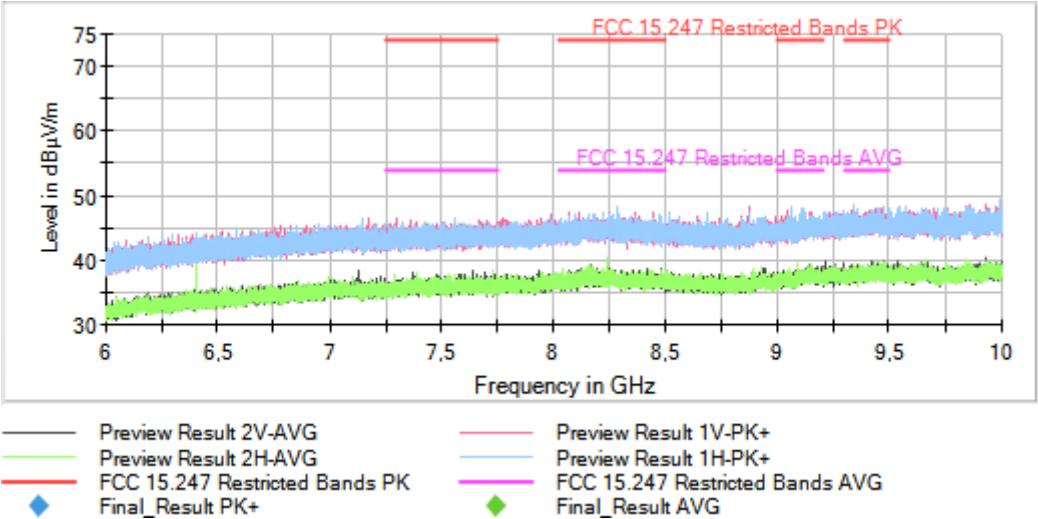
Frequency Range GHz = [6, 10] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 903
MIMO Mode = SISO Active Port = 1

Images:



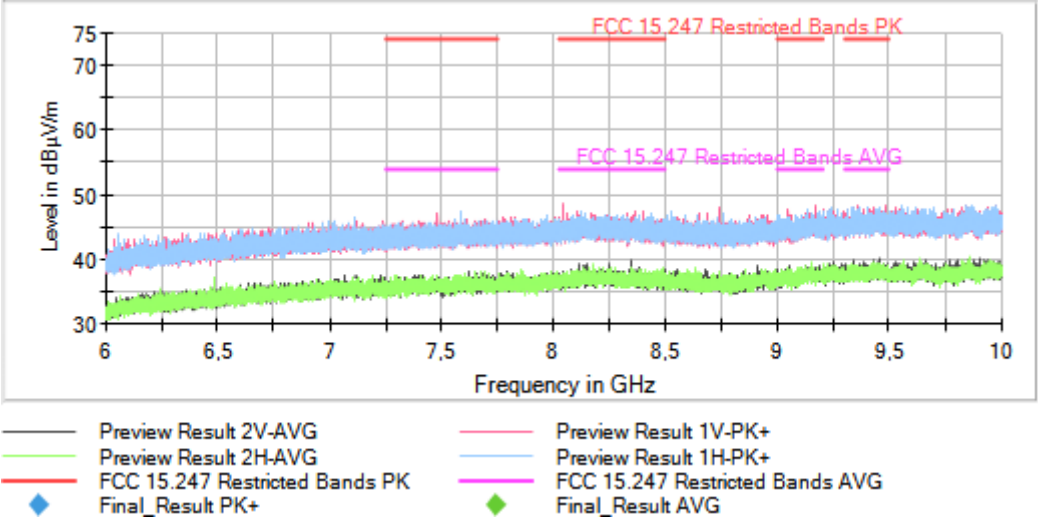
Frequency Range GHz = [6, 10] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 915
MIMO Mode = SISO Active Port = 1

Images:



Frequency Range GHz = [6, 10] Equipment Type = Hybrid
Modulation = LoRa Frequency MHz = 927
MIMO Mode = SISO Active Port = 1

Images:



Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSV40]					
	6 GHz - 10 GHz	140 kHz	PK+ ; AVG	1 MHz	1 s	30 dB