

<b>Prüfbericht-Nr.:</b> <i>Test report no.:</i>	IN23VZM3 001	<b>Auftrags-Nr.:</b> <i>Order no.:</i>	146800530 0010	Seite 1 von 122 Page 1 of 122
<b>Kunden-Referenz-Nr.:</b> <i>Client reference no.:</i>	2142863	<b>Auftragsdatum:</b> <i>Order date:</i>	2023-06-01	
<b>Auftraggeber:</b> <i>Client:</i>	Landis + Gyr Technology, Inc. 30000 Mill Creek Ave., Suite 100 Alpharetta, GA 30022			
<b>Prüfgegenstand:</b> <i>Test item:</i>	Sub-GHz Wireless Mesh Module			
<b>Bezeichnung</b> <i>Identification</i>	Series-6 Gen-2 MCM0	<b>Serien -Nr.:</b> <i>Serial no.:</i>	D016E7A9 & D016E7BC	
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	Testing and issue of Test Report and Grant Certificate			
<b>Prüfgrundlage:</b> <i>Test specification:</i>	FCC Part 15 Subpart C 15.247,15.205, 15.207 & 15.209 RSS 247 Issue 3, RSS Gen Issue 5			
<b>Wareneingangsdatum:</b> <i>Date of sample receipt:</i>	2023-06-19			
<b>Prüfmuster-Nr.:</b> <i>Test sample no.:</i>	A003499438-001 & A003499438-003			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	2023-06-19 - 2023-07-29			
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	Wireless laboratory, Bangalore			
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland (India) Pvt. Ltd. 27/B,2nd cross road, Electronic city Phase1, Banglore-560100, India FCC Test Site Registration No: 496599 IC Test Site Registration No: 27711 HVIN: Series-6 Gen-2 MCM0			
<b>Prüfresultat*:</b> <i>Test result*:</i>	Pass			
<b>geprüft von:</b> <i>tested by:</i>	<b>genehmigt von:</b> <i>authorized by:</i>			
<b>Datum:</b> <i>Date:</i>	2023-07-31	<b>Ausstellatum:</b> <i>Issue date:</i>	2023-10-16	
<b>Stellung / Position:</b>	<b>M V Naveen Kumar</b> Senior Engineer	<b>Stellung / Position:</b>	<b>Madhu K N</b> Assistant Manager	
<b>Sonstiges / Other:</b>	FCC ID: R7PMGBM2B1 IC: 5294A-MGBM2B1			
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>	<b>Prüfmuster vollständig und unbeschädigt</b> <i>Test item complete and undamaged</i>			
<b>* Legende:</b>	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend N/T = nicht getestet
<b>* Legend:</b>	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
<p><b>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.</b>  <i>This test report only 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 test mark.</i></p>				

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4	<p>Die Entscheidungsregel für Konformitätserklärungen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird.</p> <p><i>The decision rule for statements of conformity in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report.</i></p>

## TEST SUMMARY

Test Item	FCC	RSS	Result
Maximum conducted (Peak) output power	15.247 (b)(2)	RSS-247 issue 3 5.4 (a)	PASS
Maximum Conducted Average Output Power	15.247 (b)(3)	RSS-247 issue 3 5.4 (a)	PASS
Occupied bandwidth and 20dB Bandwidth	15.247 (a) (1) (i)	RSS-247 issue 3 5.1 (c) & RSS Gen Issue 5 6.7	PASS
Maximum Power Spectral Density	15.247 (f)	RSS-247 issue 3 5.2 (b)	PASS
Number of Hopping channels	15.247 (a) (1) (i)	RSS-247 issue 3 5.1 (c)	PASS
Carrier Frequency Separation	15.247 (a) (1)	RSS-247 issue 3 5.1 (b)	PASS
Time of Occupancy (Dwell Time)	15.247 (a) (1) (i) & 15.247 (f)	RSS-247 issue 3 5.1 (c) & 5.3 (a)	PASS
Emissions in non-restricted frequency bands	15.247 (d)	RSS-247 issue 3 5.5	PASS
Spurious Radiated Emissions and Restricted Bands of Operation	FCC 15.209 / FCC 15.205	RSS-GEN issue 5 Clause 8.9, 8.10	PASS
AC power-line conducted emission	FCC 15.207	RSS-Gen Issue 5, Section 8.8	PASS
Antenna Requirement	FCC15.203	RSS Gen Issue 5 Section 6.8	PASS
Duty Cycle	-	-	PASS

Product Category: Electronics Testing  
Test Discipline: EMC Test Facility

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## REVISION HISTORY OF THIS REPORT

Report Number	Version	Description	Issue date
IN23VZM3 001	01	Initial Issue of test report	2023-10-16

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# 1 GENERAL REMARKS

## 1.1 Attachments

All attachments are part of this test report and are issued in separate document

1. TEST SETUP PHOTOS
2. EUT EXTERNAL PHOTOS
3. EUT INTERNAL PHOTOS
4. FCC LABEL AND LABEL LOCATION
5. BLOCK DIAGRAM
6. SPECIFICATION OF EUT
7. SCHEMATIC DIAGRAMS
8. BILL OF MATERIAL
9. USER MANUAL
10. MAXIMUM PERMISSIBLE EXPOSURE INFORMATION
11. APPENDIX-1(POWER LEVELS)

## 2 TEST SITES

### 2.1 Testing Facilities

- |  |   |
|--|---|
| <p>1. TÜV Rheinland (India) Pvt.Ltd.,<br/>27/B, 2nd Cross,<br/>ElectronicCityPhase1<br/>Bangalore – 560 100,<br/>India</p> | <p>2. TUV Rheinland (India) Pvt.Ltd.,<br/>108 , Beside ISBR Business School,<br/>Electronic city Phase I<br/>Bangalore - 560 100,<br/>India</p> |
|--|---|

### 2.2 List of Test and Measurement Instruments

Table 1: List of test and measurement instruments

Equipment	Manufacturer	Model Name	Serial Number	Firmware Versions	Calibration Due Date	Periodicity	Test Facility
Active loop antenna	Frankonia	LAX-10	LAX-10-800	-	02.03.2024	Yearly	Radiated Spurious Emission
Balun & Biconical Antenna	Schwarzbeck Mess-Elektronik	BBA 9106+VH BB 9124	9124-1117	-	05.05.2024	Yearly	
Log-Periodic Antenna	Schwarzbeck mess-elektronik	VUSLP 9111B	9111B-111	-	17.02.2024	Yearly	
Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-01944	-	18.10.2023	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	-	
Fully Anechoic Chamber	Albatross	-	-	-	-	-	
EMI Receiver	Rohde & Schwarz	ESW 44	101732	4.73.SP5	04.08.2023	Yearly	Conducted test parameters
EMI Receiver	Rohde & Schwarz	ESW44	101773	1.72.SP1	15.02.2024	Yearly	
Signal Analyser	Anritsu Corporation	MS2830 A	6261983953	20.00.01	18.10.2023	Yearly	
30 dB RF Attenuator	Mini Circuits	BW-N30W5+	938	-	12.10.2023	Yearly	Conducted AC Power line Test
Spectrum Analyzer	Agilent	E4407B	US41192772	A.14.07	27.12-2023	Yearly	
EMI Receiver	Rohde & Schwarz	ESR7	101133	3.48 SP3	29.07.2024	Yearly	
Two Line LISN	Rohde & Schwarz	ENV 216	100022	-	11.10.2023	Yearly	Conducted AC Power line Test
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100811	-	12.07.2024	Yearly	

Table 2: Instrument application Software versions

SL. No.	Test Type	Application software	Version
1	Radiated spurious emission measurement in 3mtr FAC	EMC 32	10.60.00
2	Radiated spurious emission measurement in 10mtr SAC	BAT EMC	3.20.0.17

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### 3 GENERAL PRODUCT INFORMATION

#### 3.1 Product Function and Intended Use

The Series-6 Gen-2 MCM0(S6G2-MCM0) is a fully encapsulated/shielded Multi-Chip Module (MCM) device in a 23mmx22mmx 2.5mm form factor. It can be incorporated into a host device (such as the L+G Revelo E370 meter) to provide communications for AMI applications. The Series-6 Gen-2 MCM0 radio feeds directly into an onboard printed Inverted-F Antenna located on the Revelo E370.

#### 3.2 Ratings and System Details of Equipment under Test

Table 3: Ratings and System Details as declared by Client\*

<b>Protocol</b>	SRD	
<b>Operating Frequency Range</b>	Please refer the Appendix-1	
<b>No. of Channels</b>		
<b>Channel Spacing</b>		
<b>Tx Transmitting Power</b>		
<b>Maximum Measured Power(dBm)</b>	29.05dBm @ mode of Operation 1(150kbps,927.60MHz)	
<b>Modulation</b>	Please refer the Appendix-1	
<b>Data Rate</b>		
<b>Number of antennas</b>	One	
<b>Antenna Type &amp; Antenna Gain</b>	Printed Inverted-F Antenna & 1dBi	
<b>Antenna Model</b>	Printed Inverted F	
<b>Supply Voltage to Product</b>	3.6VDC through evaluation board	
<b>Environmental conditions</b>	Storage Condition	-40°C to 85°C
	Operating Condition	-40°C to 85°C
<b>EUT Dimension (L x W x H):</b>	23mm x 22mm x 2.5mm	

\***Disclaimer:** The information/data is supplied by the client and the same is considered to arrive at the final value. Any changes made apart from the specified specification, can directly impact on the tests results. Refer the products user manual for more details.



### 3.3 Measurement Uncertainty:

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$

**Table 4: Measurement Uncertainty**

Parameter	Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3 dB
Unwanted Emissions, conducted	±3 dB
All emissions, radiated	±6 dB
Temperature	±3 °C
Supply Voltages	±3 %
Time	±5 %

## 4 TEST SET-UP AND OPERATION MODE

### 4.1 Principle of Configuration Selection

The EUT was programmed to generate a continuously modulated signal on each channel evaluated for RF conducted measurements and 25% of duty cycle was programmed for RF Radiated measurements.

### 4.2 Test Operation and Test Software

Hardware Version: Rev AA

Hardware Name: M2439

Hardware Version Identification Number HVIN: Series-6 Gen-2 MCM0

Software Name & Version: S6G2-MCM0 Mesh IP (SBS) Mode (S6SR40-28.01.S33),  
S6G2-MCM0 Wi-SUN (WSN) Mode (S6WR40-28.01.W09) &  
S6G2-MCM0 Mesh (GSP) Mode (S6GS40-23.01.J58)

### 4.3 Special Accessories and Auxiliary Equipment

Revelo E370 PCB as host board, USB to TTL Cable, AC Power Supply Cable, Lenovo laptop for configuring Wireless Module.

### 4.4 Classification, Test Modes, and Modulation

Series-6 Gen-2 MCM0 model provides 8 distinct proprietary modes of operation using both FHSS and hybrid Classifications as outlined below.

Modes of Operation	Frequency Range (MHz)	Number of Channels	Channel Separation (kHz)	Stack/Mode	Data Rates Supported (kbps)	Classification
1	902.4 - 927.6	64	400	Mesh IP (SBS) (802.15.4 SUN FSK)	10, 20, 50, 150 & 200	FHSS
2	902.2 - 927.8	129	200	Wi-SUN (WSN) (802.15.4 SUN FSK)	50	FHSS
3	902.4 - 927.6	64	400	Wi-SUN (WSN) (802.15.4 SUN FSK)	150, 200	FHSS
4	902.3-927.8	86	300	MESH (GSP) (FSK)	9.6, 19.2, 38.4	FHSS
5	902.3-927.5	85	300	MESH (GSP) (FSK)	115.2	FHSS
6	904.0-927.8	239	100	MESH (GSP) (FSK)	9.6, 19.2, 38.4	FHSS
7	902.4 - 927.6	64	400	Mesh IP (SBS) (802.15.4 SUN OFDM)	MCS3-MCS6	Hybrid
8	902.4 - 927.6	64	400	Wi-SUN (WSN) (802.15.4 SUN OFDM)	MCS2-MCS3	Hybrid

**Monitoring of Performance:**

For radiated emissions, the EUT was evaluated in three orthogonal orientations. The worst-case Orientation was X-position. Refer test setup photos for more information.

For conducted measurements, the EUT was connected to the test equipment with a temporary antenna connector to SMA connector.

AC Power Line conducted emissions were performed with the module integrated on a representative host PCB.

Worst case mode for all parameters measured listed below.

Mode of Operation	Classification	20dB/99% Bandwidth (MHz)	Number of Hopping Channels	Carrier frequency separation	Dwell Time (ms)	Peak Output Power (dBm)	Average Output Power (dBm)	Emissions in non-restricted frequency bands	Power Spectral Density (8dBm/kHz)	Spurious Radiated Emissions and Restricted Bands of Operation
1	FHSS	10, 20, 50, 150, 200	10, 200	10, 200	10, 200	10, 20, 50, 150, 200	NA	10, 20, 50, 150, 200	NA	10, 20, 50, 150, 200
2	FHSS	50	50	50	50	50	NA	50	NA	50
3	FHSS	**	**	**	**	**	NA	**	NA	**
4	FHSS	9.6, 19.2, 38.4	9.6, 19.2, 38.4	9.6, 19.2, 38.4	9.6, 19.2, 38.4	9.6, 19.2, 38.4	NA	9.6, 19.2, 38.4	NA	9.6, 19.2, 38.4
5	FHSS	115.2	115.2	115.2	115.2	115.2	NA	115.2	NA	115.2
6	FHSS	9.6, 19.2, 38.4	9.6, 19.2, 38.4	9.6, 19.2, 38.4	9.6, 19.2, 38.4	9.6, 19.2, 38.4	NA	9.6, 19.2, 38.4	NA	9.6, 19.2, 38.4
7	Hybrid	MCS6	MCS6	MCS6	MCS6	NA	MCS6	MCS6	MCS6	MCS6
8	Hybrid	MCS2-MCS3	MCS2-MCS3	MCS2-MCS3	MCS2-MCS3	NA	MCS2-MCS3	MCS2-MCS3	MCS2-MCS3	MCS2-MCS3

**\*Note:** Where \*\* addressed by mode 1

NA → Not Applicable

**4.5 Countermeasures to achieve EMC Compliance**

None

**4.6 List of frequencies**

- Refer the Appendix-1



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## 5 Operational Description

The Series-6 Gen-2 MCM0(S6G2-MCM0) is a radio within Landis & Gyr inside series. It supports half-duplex operation in Sub-GHz band 902MHz to 928MHz ISM band. It can be integrated into metering, sensor, and controller products, allowing a wide range of devices to communicate on the Landis & Gyr RF Mesh networks. This version integrates a Wireless SoC, TCXO, serial Flash & a linear regulator.



### 6.1.2 Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.10-2013. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable for below 1 GHz & 1.5 m height for above 1 GHz measurement, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360° for obtaining the maximum emission. The height of the measuring antennas was scanned between 1 m and 4 m, 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. The measurement above 1000 MHz was performed by horn antenna, The measurement below 30 MHz was performed by loop antenna, Measurement from 30 MHz to 200 MHz was performed by Baloon and Biconical Antenna, and mesurement from 200 MHz to 1 GHz was performed by Log-Periodic Antenna.

The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded

### 6.1.3 Test Setup Configuration

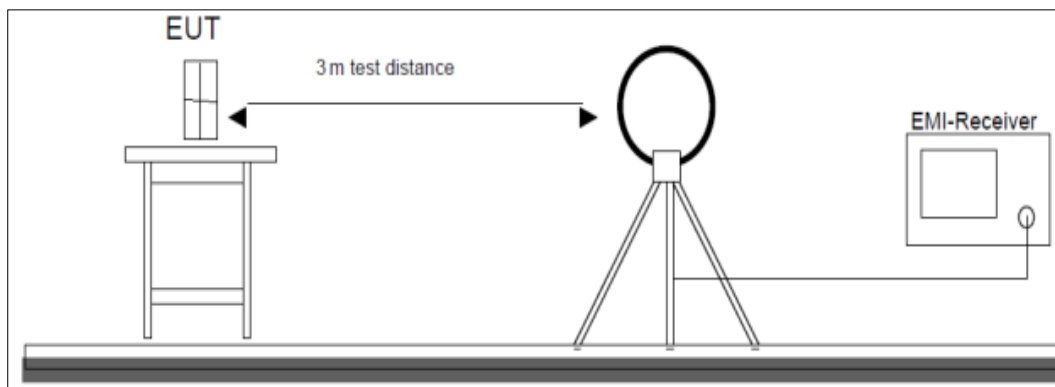


Figure 1: Frequency Range 9 kHz- 30 MHz

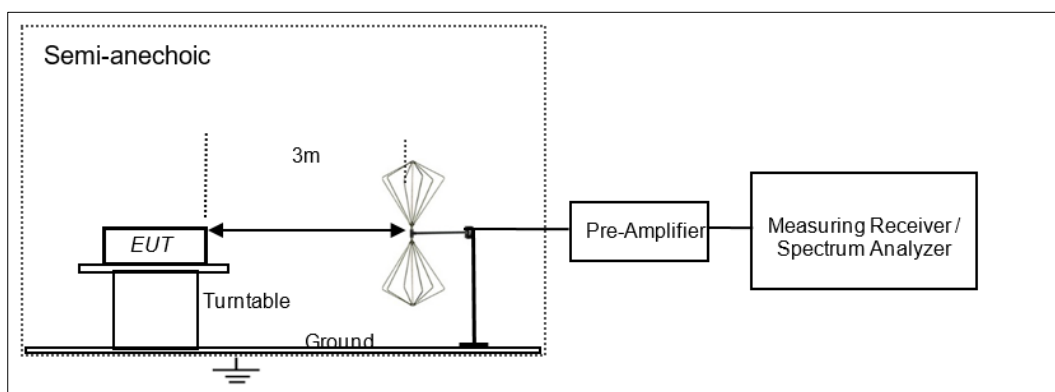


Figure 2: Frequency Range 30 MHz – 200 MHz

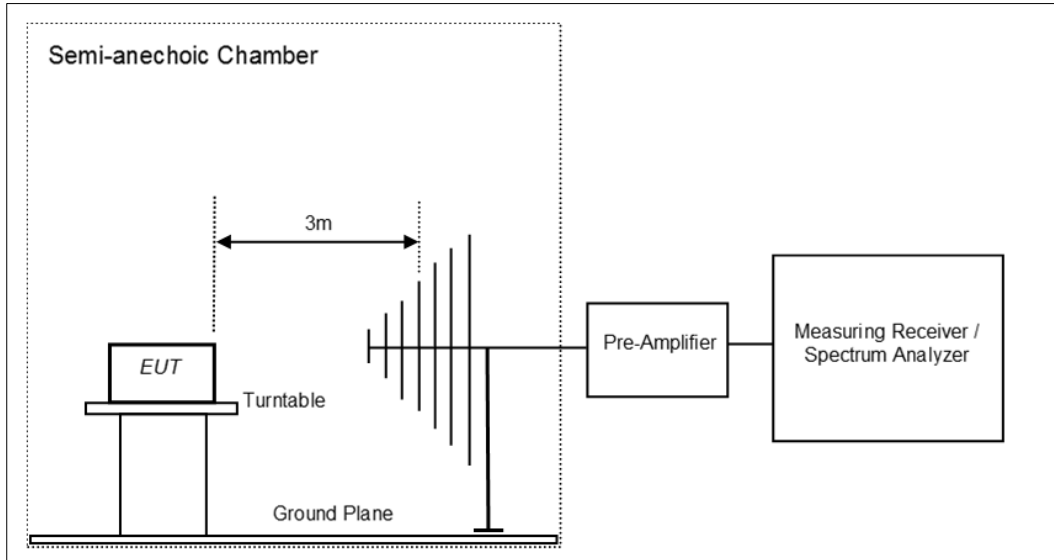


Figure 3: Frequency Range 200 MHz - 1GHz

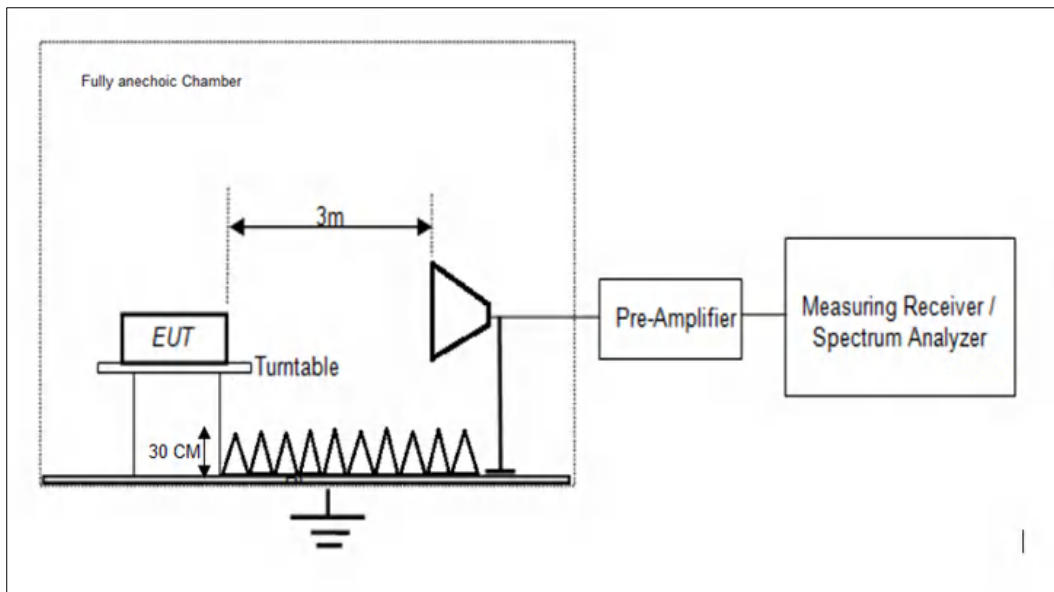


Figure 4: Frequency Range above 1 GHz



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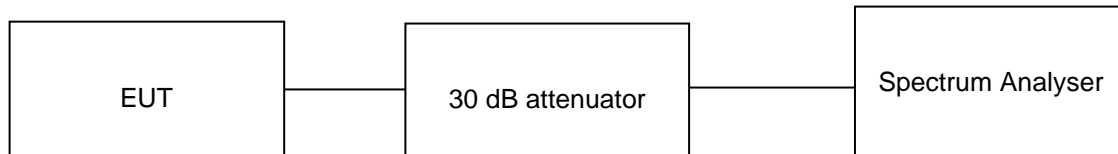
## 7 TEST RESULTS

### 7.1 Maximum Peak Conducted Output Power

**Result**

**Pass**

Test Specification	FCC part 15 Subpart C 15.247 (b)(2) RSS-247 issue 3 5.4 (a)
Test Method	Subclause 7.8.5 of ANSI C63.10
Measurement Bandwidth	300kHz
Detector	Peak
Port of testing	Antenna port
Requirement	Power $\leq 1$ W (30 dBm) & e.i.r.p $\leq 4$ W (36dBm)



#### Test Condition

##### Normal Test Condition:

Temperature (Norm) = + 22.1 °C      Voltage = 3.6V DC through evaluation board      Relative humidity: 65%

##### KDB Guidelines applied:

Measurements were made as per section 9(b) in KDB 558074 D01 15.247 Measurement Guidance v05r02.

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**Test results:**

**Note:**

1. All the losses are included during measurement and final values are mentioned in the test report
2. Total Peak Output power (dBm) = Measured Peak power (dBm) + Attenuator factor (30dB) + Cable loss (0.55dB)
3. This product do not support additional beamforming gain / directional gain, it uses single antenna and hence Directional gain of the single antenna is 1 dBi

Mode of operation	Stack / Mode	Data rate	Band type	Channel frequency (MHz)	Measured peak power (dBm)	Measured e.i.r.p (dBm)	FCC Limit (dBm)	IC Limit (dBm)
1	Mesh IP (SBS) (802.15.4 SUN FSK)	10kbps	-	902.40	28.81	29.81	30.00	36.00
			-	914.80	28.97	29.97	30.00	36.00
			-	927.60	29.03	30.03	30.00	36.00
		20kbps	-	902.40	28.7	29.7	30.00	36.00
			-	914.80	28.81	29.81	30.00	36.00
			-	927.60	28.84	29.84	30.00	36.00
		50kbps	-	902.40	28.9	29.9	30.00	36.00
			-	914.80	28.92	29.92	30.00	36.00
			-	927.60	29.02	30.02	30.00	36.00
		150kbps	-	<b>902.40</b>	<b>28.84</b>	<b>29.84</b>	<b>30.00</b>	<b>36.00</b>
			-	<b>914.80</b>	<b>28.99</b>	<b>29.99</b>	<b>30.00</b>	<b>36.00</b>
			-	<b>927.60</b>	<b>29.05</b>	<b>30.05</b>	<b>30.00</b>	<b>36.00</b>
200kbps	-	902.40	28.85	29.85	30.00	36.00		
	-	914.80	28.87	29.87	30.00	36.00		
	-	927.60	28.97	29.97	30.00	36.00		
2	Wi-SUN (WSN) (802.15.4 SUN FSK)	50kbps	-	902.20	28.91	29.91	30.00	36.00
			-	915.00	29.00	30.00	30.00	36.00
			-	927.80	29.04	30.04	30.00	36.00
4	Mesh GSP (FSK)	F2B9K6	Wide Band	902.30	28.59	29.59	30.00	36.00
				915.20	28.76	29.76	30.00	36.00
				927.80	28.85	29.85	30.00	36.00
		F2B19K2		902.30	28.49	29.49	30.00	36.00
				915.20	28.64	29.64	30.00	36.00
				927.80	28.75	29.75	30.00	36.00
		F2B38K4		902.30	28.47	29.47	30.00	36.00
				915.20	28.61	29.61	30.00	36.00
				927.80	28.78	29.78	30.00	36.00
5	F2B115K2	902.30	28.58	29.58	30.00	36.00		
		915.20	28.72	29.72	30.00	36.00		
		927.50	28.83	29.83	30.00	36.00		
6	F2B9K6	Narrow Band	904.00	28.60	29.60	30.00	36.00	
			915.20	28.79	29.79	30.00	36.00	
			927.80	28.96	29.96	30.00	36.00	
			F2B19K2	904.00	28.63	29.63	30.00	36.00
				915.20	28.75	29.75	30.00	36.00
				927.80	28.85	29.85	30.00	36.00
			F2B38K4	904.00	28.57	29.57	30.00	36.00
				915.20	28.75	29.75	30.00	36.00
				927.80	28.86	29.86	30.00	36.00

**\*Note:** Mode 3 test results addressed in Mode 1 since data rates & Operating frequencies are same.

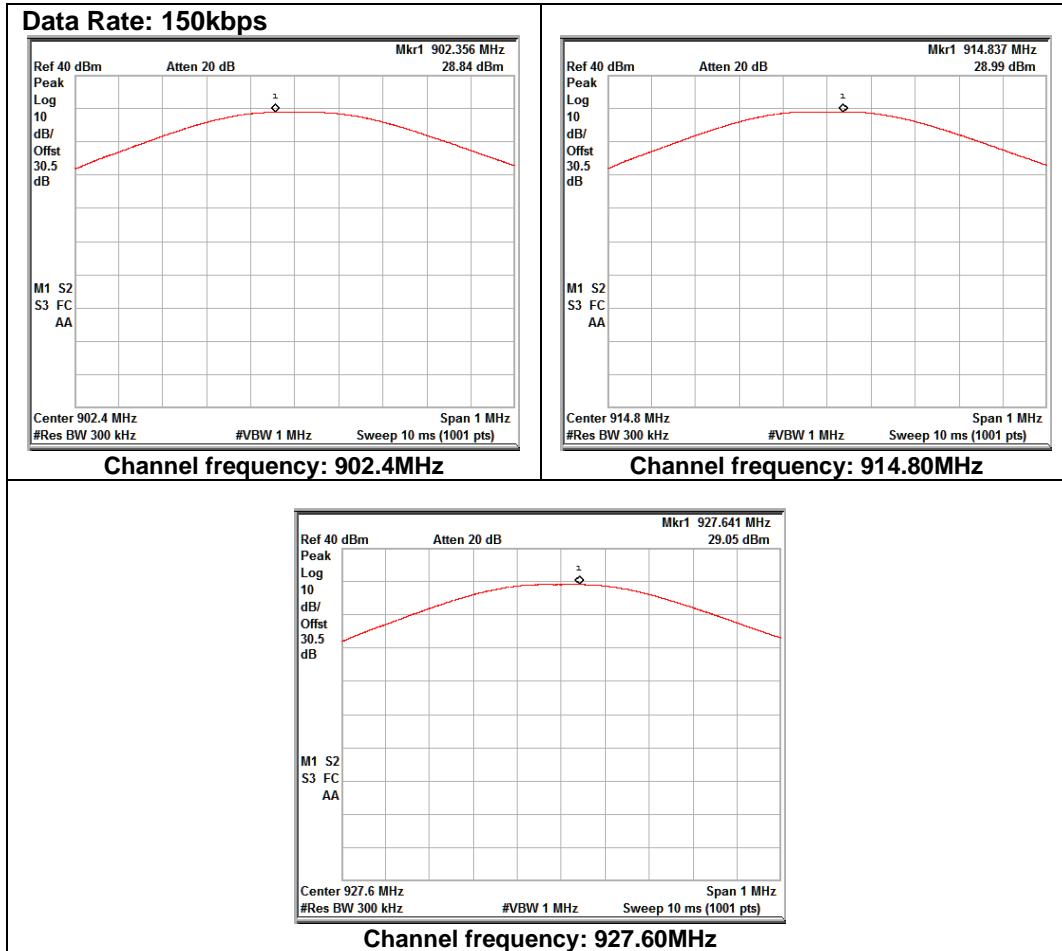
**Prüfbericht - Nr.:**  
Test Report No.:

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Test Plots:

Mode of Operation: 1



**Prüfbericht - Nr.:**  
*Test Report No.:*

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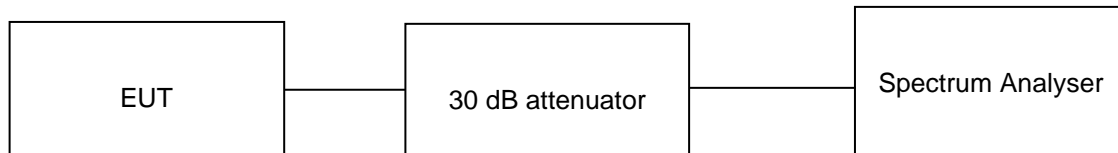
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## 7.2 Maximum Conducted Average Output Power

### **Result**

### **Pass**

Test Specification	FCC part 15 Subpart C 15.247 (b)(3) RSS-247 issue 3 Clause 5.4 (a)
Test Method	Subclause 11.9.2.2.2 of ANSI C63.10
Measurement Bandwidth	10kHz
Detector	Average
Port of testing	Antenna port
Requirement	Power $\leq 1$ W (30 dBm) & e.i.r.p $\leq 4$ W(36dBm)



### **Test Condition**

#### **Normal Test Condition:**

Temperature (Norm) = + 22.1 °C      Voltage = 3.6V DC through AC/DC Adapter      Relative humidity: 65%

#### **KDB Guidelines applied:**

Measurements were made as per section 10(b)(6)(i) in KDB 558074 D01 15.247 Measurement Guidance v05r02.

**Test Results:**

**Note:**

1. All the losses are included during measurement and final values are mentioned in the test report
2. Total Peak Output power (dBm) = Measured Average power (dBm) + Attenuator factor (30dB) + Cable loss (0.55dB)
3. This product do not support additional beamforming gain / directional gain, it uses single antenna and hence Directional gain of the single antenna is 1 dBi

Mode of operation	Stack / Mode	Data rate	Channel frequency (MHz)	Measured average power (dBm)	Measured e.i.r.p (dBm)	FCC Limit (dBm)	IC Limit (dBm)
7	MESH IP (SBS) (802.15.4 OFDM)	MCS6	902.40	22.70	23.70	30	36
			915.20	24.85	25.85	30	36
			927.60	22.42	23.42	30	36
8	Wi-SUN (WSN) (802.15.4 OFDM)	MCS2	902.40	22.66	23.66	30	36
			915.20	24.84	25.84	30	36
			927.60	22.41	23.41	30	36
		MCS3	902.40	22.60	23.60	30	36
			915.20	24.84	25.84	30	36
			927.60	22.47	23.47	30	36

**Test Plots:**

**Mode of Operation: 7**



**Prüfbericht - Nr.:**  
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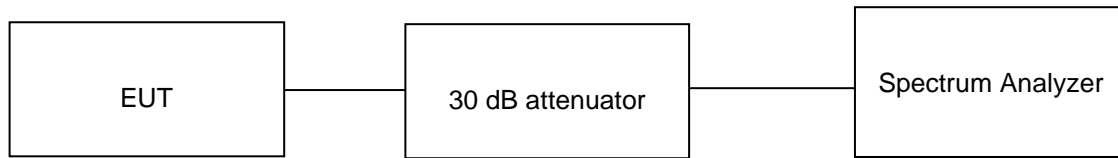
### 7.3 Maximum Power Spectral density

**Result**

**Pass**

Test Specification	FCC part 15 Subpart C 15.247 (f) RSS-247 issue 3 Clause 5.2 (b)
Test Method	Subclause 11.10.3 of ANSI C63.10
Measurement Bandwidth	3 kHz
Detector	RMS
Port of testing	Antenna port
Requirement	The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

**Test Method:**



**Test Condition**

**Normal Test Condition:**

Temperature (Norm) = + 22.1 °C      Voltage = 3.6VDC through evaluation board      Relative humidity: 65%

**Prüfbericht - Nr.:**  
Test Report No.:

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**Test Results:**

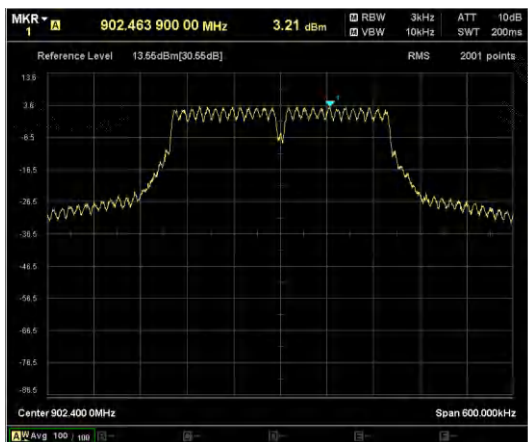
**Hybrid Mode:**

Mode of operation	Stack / Mode	Data rate	Channel frequency (MHz)	Measured Average PSD (dBm)	PSD Limit (dBm/kHz)
7	MESH IP (SBS) (802.15.4 OFDM)	MCS6	902.40	3.21	8
			915.20	5.85	8
			927.60	3.27	8
8	Wi-SUN (WSN) (802.15.4 OFDM)	MCS2	902.40	3.38	8
			915.20	5.54	8
			927.60	2.95	8
		MCS3	902.40	3.19	8
			915.20	5.25	8
			927.60	2.74	8

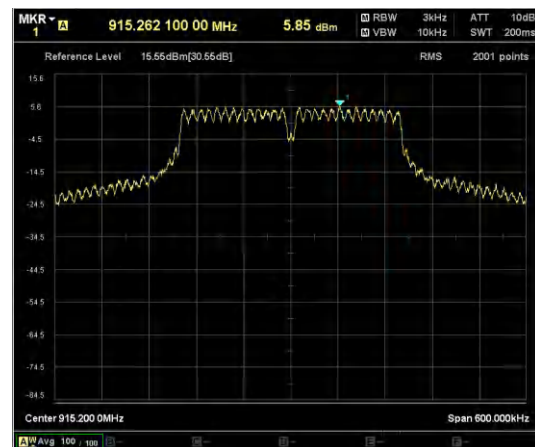
**Test Plots:**

**Mode of Operation: 7**

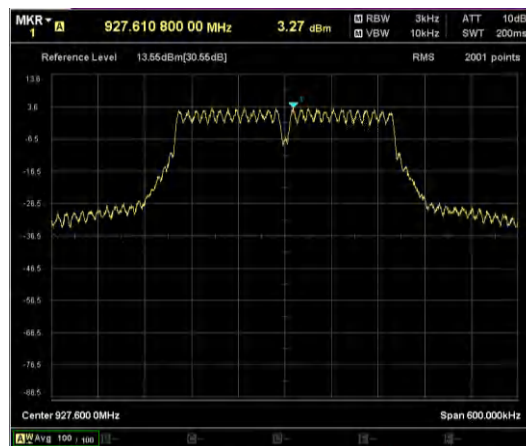
**Data Rate: MCS6**



**Channel frequency: 902.4MHz**



**Channel frequency: 915.20MHz**



**Channel frequency: 927.60MHz**

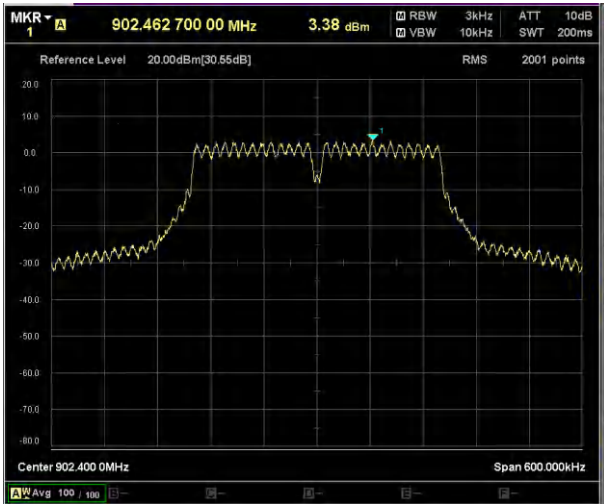
**Prüfbericht - Nr.:**  
Test Report No.:

**IN23VZM3 001**

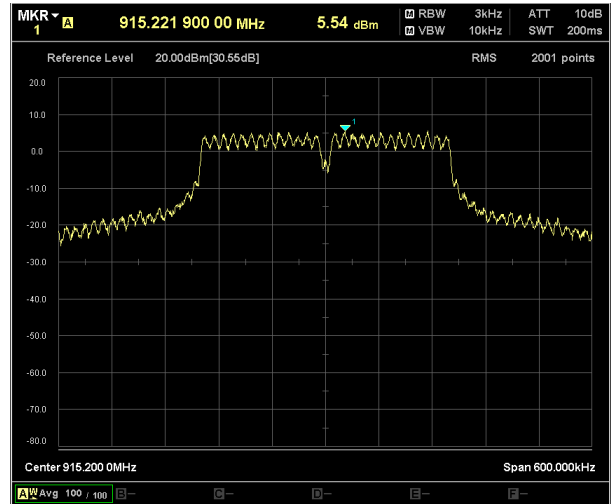
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**Mode of Operation: 8**

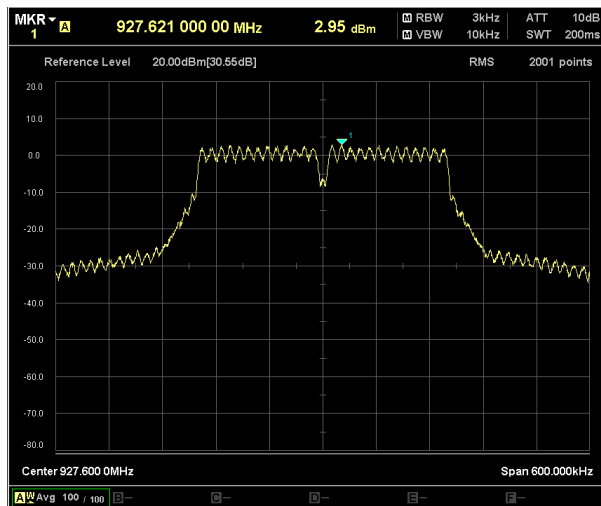
**Data Rate: MCS2**



**Channel frequency: 902.4MHz**



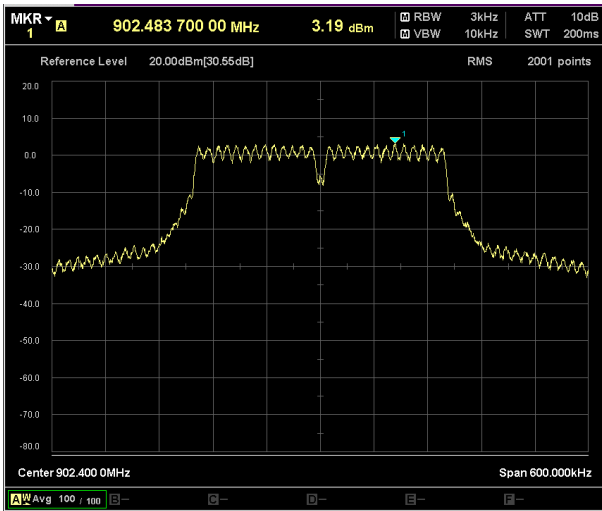
**Channel frequency: 915.2MHz**



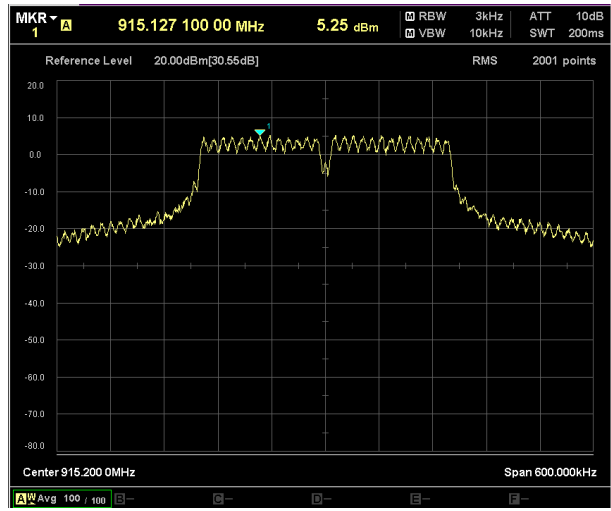
**Channel frequency: 927.6MHz**



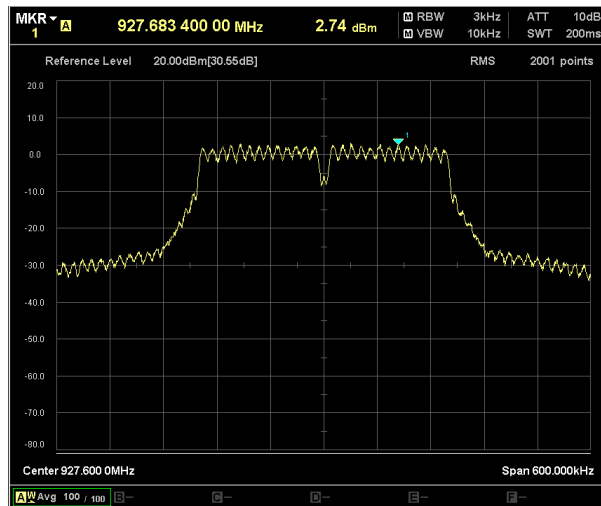
Data Rate: MCS3



Channel Frequency: 902.4MHz



Channel frequency: 915.2MHz



Channel frequency: 927.6MHz

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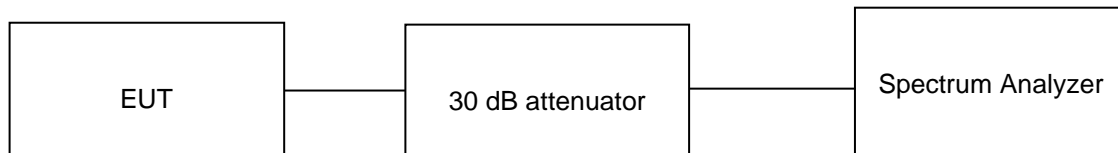
## 7.4 20dB & 99% Bandwidth

### Result

**Pass**

Test Specification	FCC part 15 Subpart C 15.247 (a) (1) (i) RSS-247 issue 3 5.1 (c) & RSS Gen Issue 5.6.7
Test Method	Subclause 7.8.7 of ANSI C63.10 Subclause 6.9.3 of ANSI C63.10
Measurement Bandwidth	3 kHz
Detector	Peak
Port of testing	Antenna port
Requirement	The minimum 20 dB bandwidth of the hopping channel is 250 kHz use at least 50 hopping frequencies.

### Test Method:



### Test Condition

#### Normal Test Condition:

Temperature (Norm) = + 22.1 °C      Voltage = 3.6VDC through evaluation board      Relative humidity: 65%

### KDB Guidelines applied:

Measurements were made as per section 9(b) in KDB 558074 D01 15.247 Measurement Guidance v05r02.

**Test results:**

**Note:**

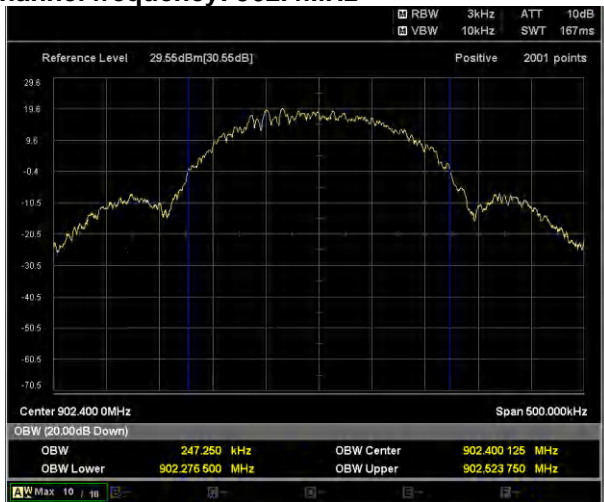
1. All the losses are included during measurement and final values are mentioned in the test report.
2. This product do not support additional beamforming gain / directional gain, it uses single antenna and hence Directional gain of the single antenna is 1dBi.

Mode of operation	Stack / Mode	Data rate	Channel frequency (MHz)	20dB Bandwidth (kHz)	99% OCW (kHz)	6dB Bandwidth (kHz)
1	MESH IP (SBS) (802.15.4 SUN FSK)	10	902.40	23.25	22.15	-
			914.80	23.25	22.05	-
			927.60	23.40	21.95	-
		20	902.40	44.30	45.50	-
			914.80	44.30	45.60	-
			927.60	44.10	45.50	-
		50kbps	902.40	111.00	117.00	-
			914.80	111.00	117.00	-
			927.60	111.00	117.00	-
		150kbps	902.40	185.50	162.75	-
			914.80	182.75	162.25	-
			927.60	183.50	162.25	-
200kbps	902.40	247.25	217.00	-		
	914.80	247.50	216.50	-		
	927.60	247.25	216.75	-		
2	Wi-SUN (WSN) (802.15.4 SUN FSK)	50kbps	902.20	118.00	117.00	-
			915.00	118.00	117.00	-
			927.80	118.00	117.00	-
4	Mesh GSP (FSK)	F2B9K6	902.30	22.45	21.20	-
			915.20	22.50	21.30	-
			927.80	22.30	21.05	-
		F2B19K2	902.30	43.90	44.10	-
			915.20	44.20	44.00	-
			927.80	43.30	44.10	-
		F2B38K4	902.30	90.30	87.30	-
			915.20	89.70	87.15	-
			927.80	89.55	87.45	-
5	Mesh GSP (FSK)	F2B115K2	902.30	241.00	244.50	-
			915.20	238.00	242.00	-
			927.50	238.50	243.00	-
6	Mesh GSP (FSK)	F2B9K6	904.00	22.40	21.15	-
			915.20	22.40	21.25	-
			927.80	22.45	21.15	-
		F2B19K2	904.00	43.50	43.90	-
			915.20	43.80	43.60	-
			927.80	44.20	44.40	-
		F2B38K4	904.00	91.05	87.45	-
			915.20	89.10	87.15	-
			927.80	90.00	87.15	-
7	SBS (802.15.4 OFDM)	MCS6	902.40	339.00	300.00	323.00
			915.20	361.50	358.00	335.50
			927.60	336.50	297.00	319.50
8	Wi-sun (802.15.4 OFDM)	MCS2	902.40	347.50	301.00	323.00
			915.20	385.50	369.50	341.50
			927.60	348.50	300.00	320.50
		MCS3	902.40	346.50	300.50	321.00
			915.20	382.00	371.00	332.50
			927.60	347.00	299.50	323.50

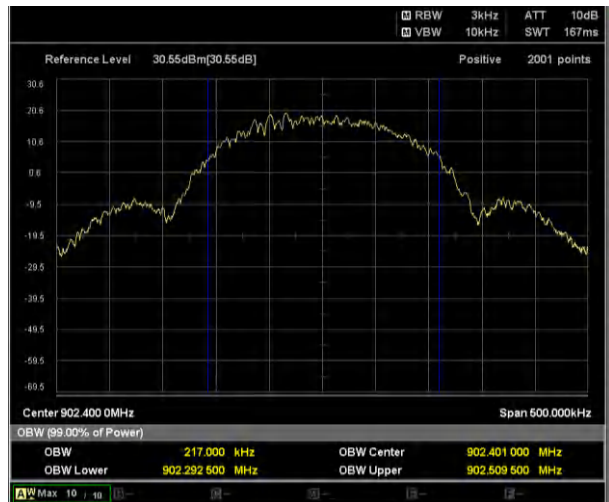
**\*Note:** Mode 3 test results addressed in Mode 1 since data rates & Operating frequencies are same.

**Test Plots:**  
**Mode of Operation: 1**  
**Data Rate: 200kpbs**

**Channel frequency: 902.4MHz**

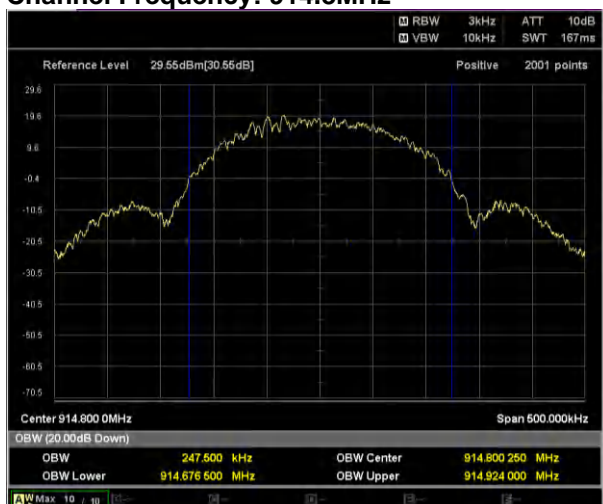


**20dB Bandwidth**

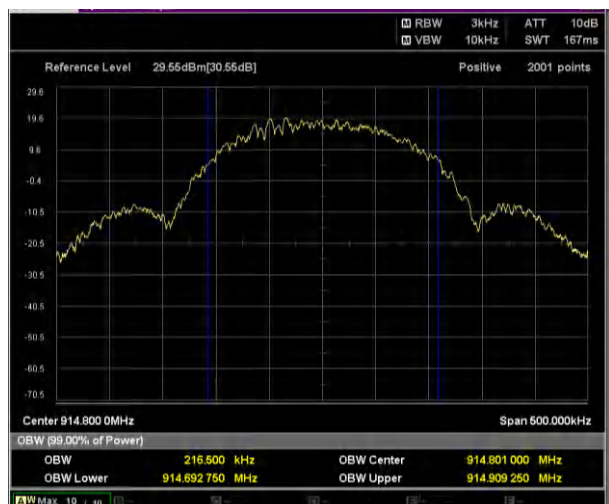


**99% Bandwidth**

**Channel Frequency: 914.8MHz**

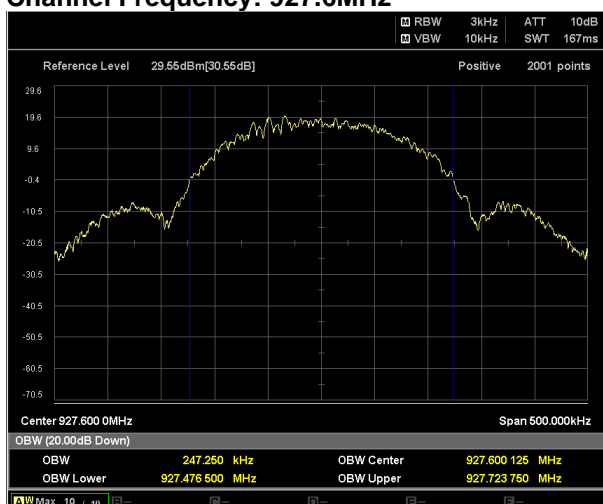


**20dB Bandwidth**

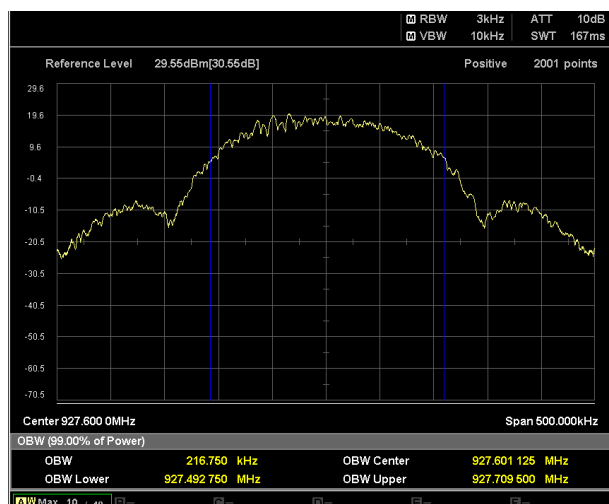


**99% Bandwidth**

**Channel Frequency: 927.6MHz**



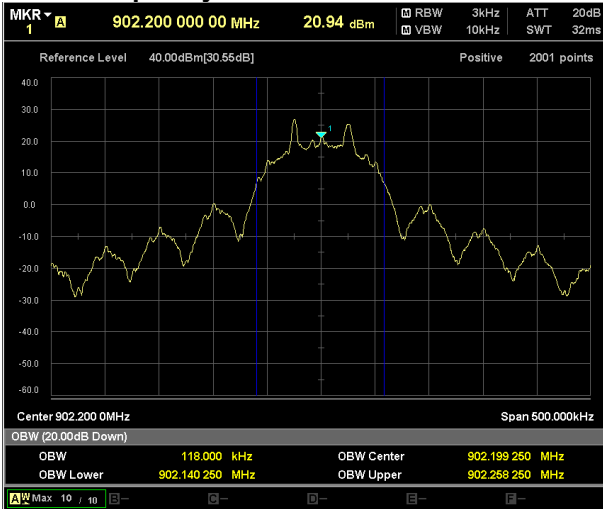
**20dB Bandwidth**



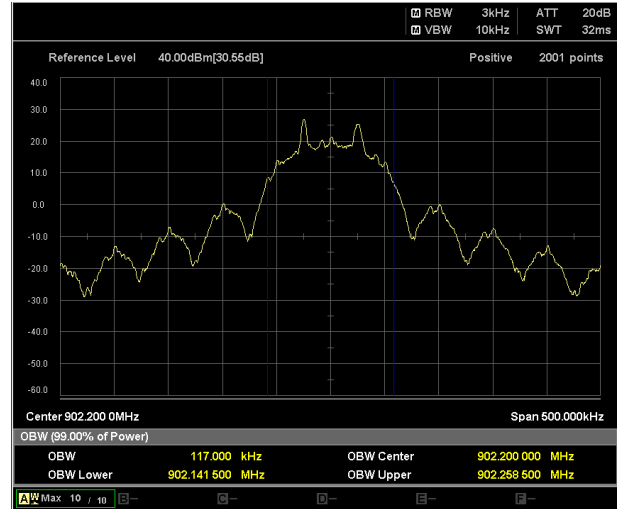
**99% Bandwidth**

**Mode of Operation: 2**  
**Data Rate: 50kbps**

**Channel frequency: 902.2MHz**



**20dB Bandwidth**

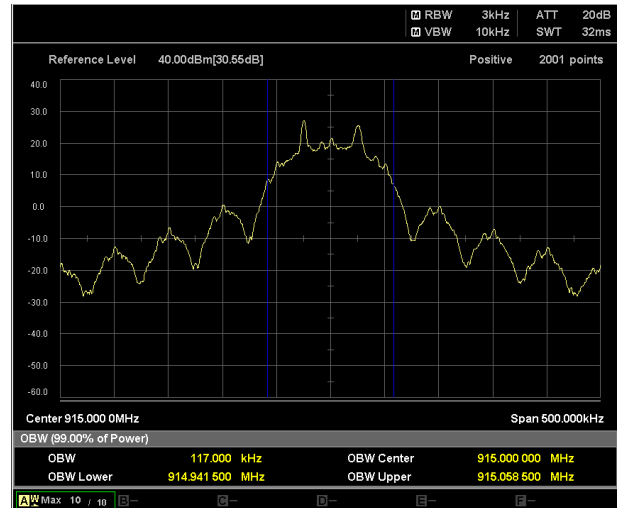


**99% Bandwidth**

**Channel frequency: 915MHz**

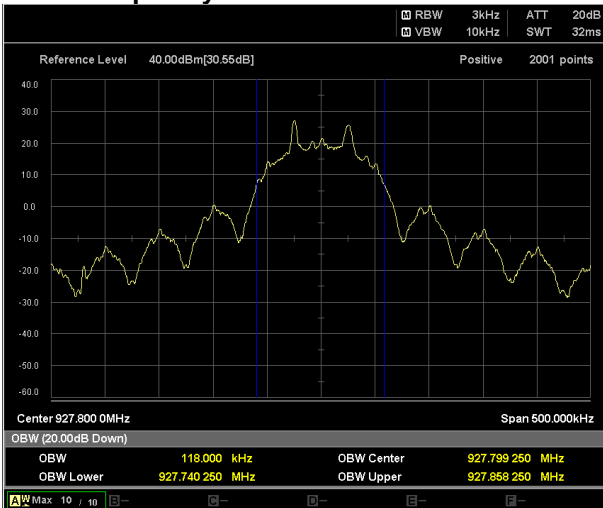


**20dB Bandwidth**

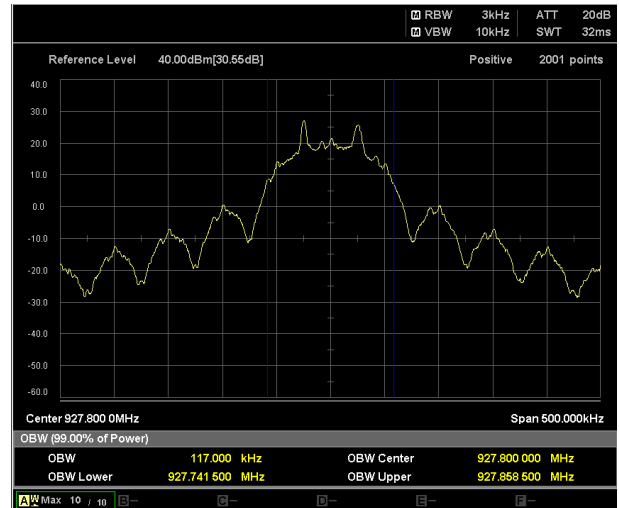


**99% Bandwidth**

**Channel frequency: 927.8MHz**



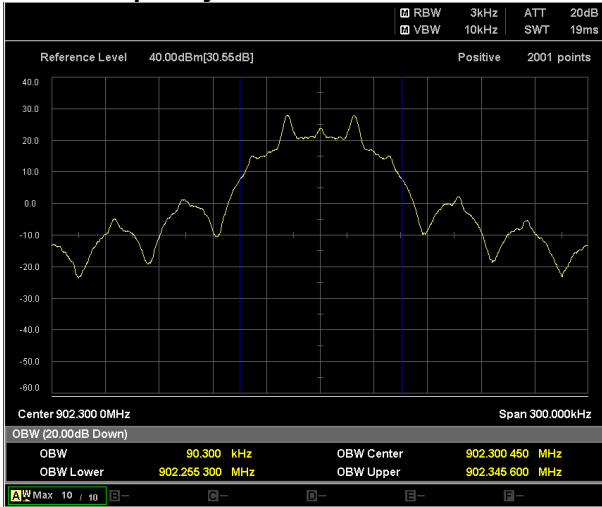
**20dB Bandwidth**



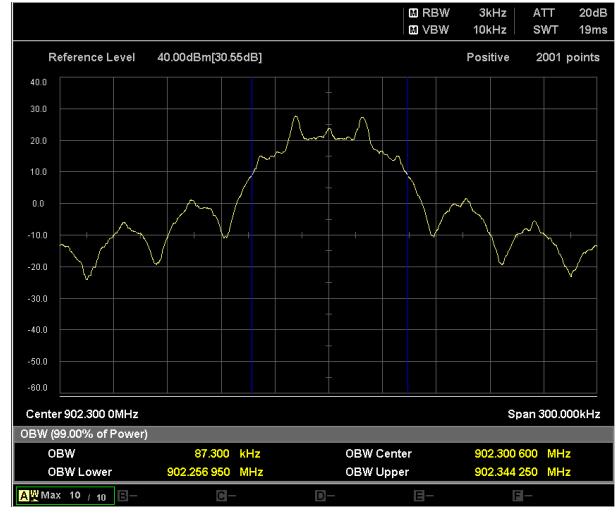
**99% Bandwidth**

**Mode of Operation: 4**  
**Data Rate: 38.4kbps**

**Channel frequency: 902.3MHz**

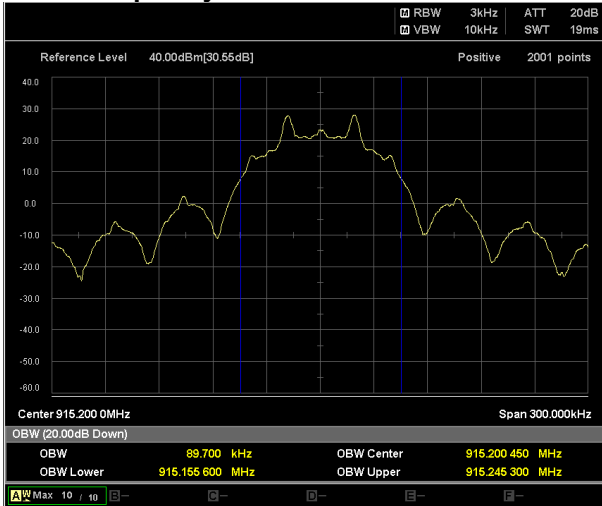


**20dB Bandwidth**

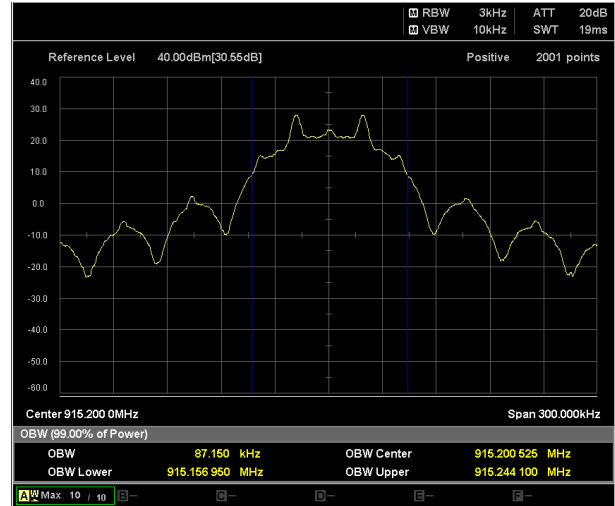


**99% Bandwidth**

**Channel frequency: 915.2MHz**

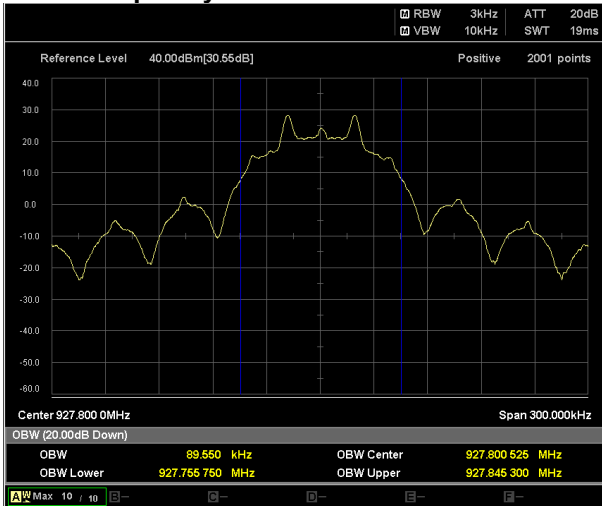


**20dB Bandwidth**

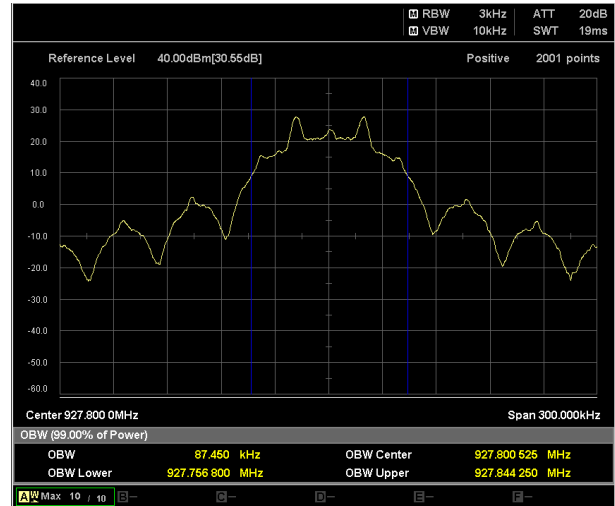


**99% Bandwidth**

**Channel frequency: 927.8MHz**



**20dB Bandwidth**



**99% Bandwidth**

**Mode of Operation: 5**  
**Data Rate: 115.2kbps**

**Channel frequency: 902.3MHz**



**20dB Bandwidth**



**99% Bandwidth**

**Channel frequency: 915.2MHz**



**20dB Bandwidth**



**99% Bandwidth**

**Channel frequency: 927.5MHz**

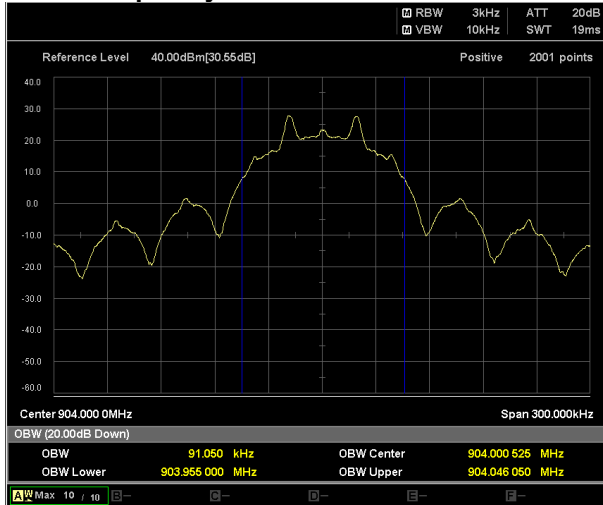
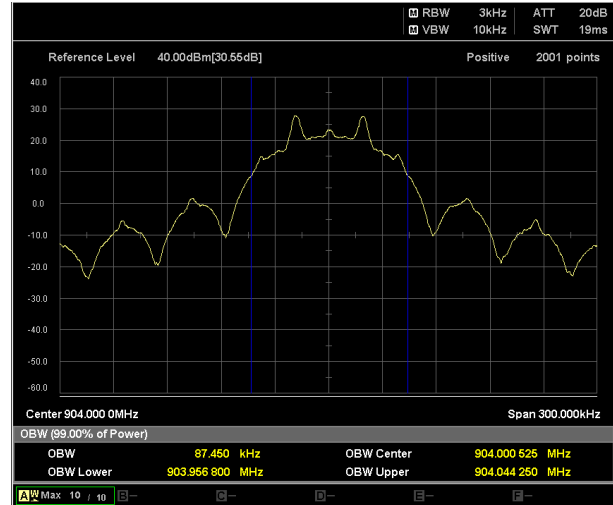
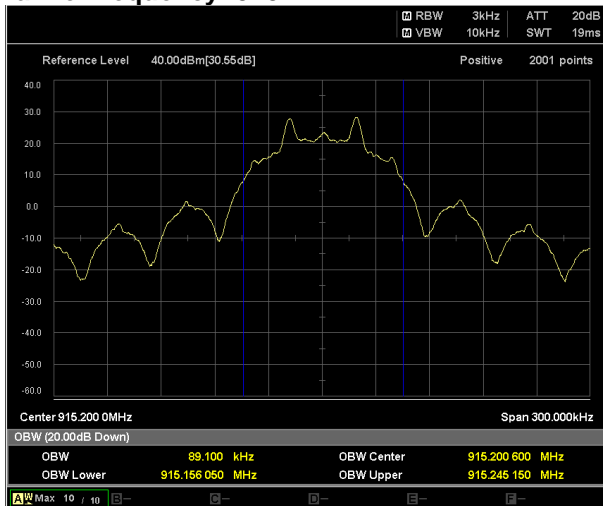
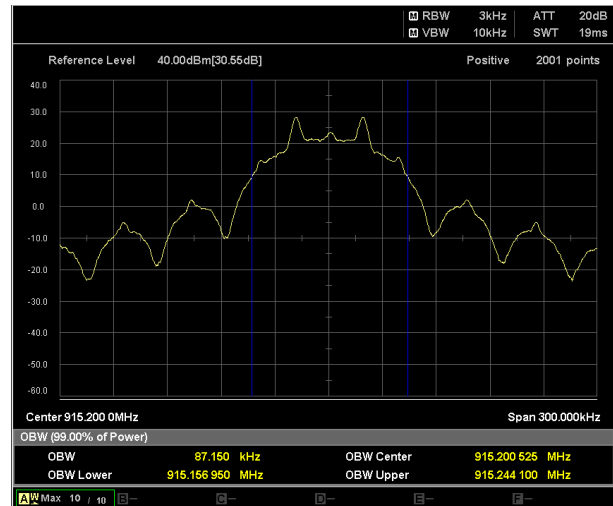
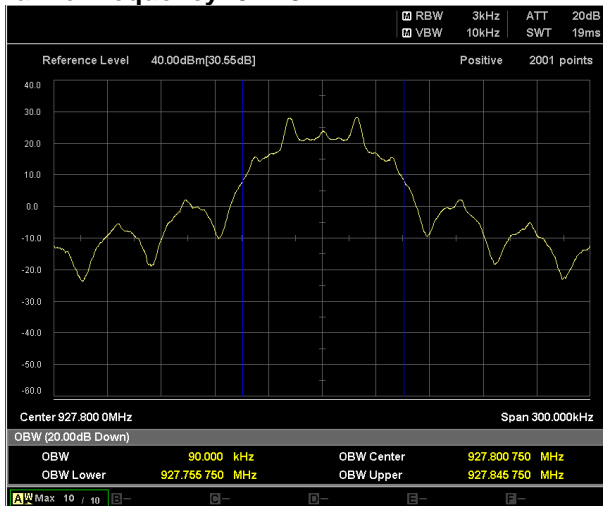
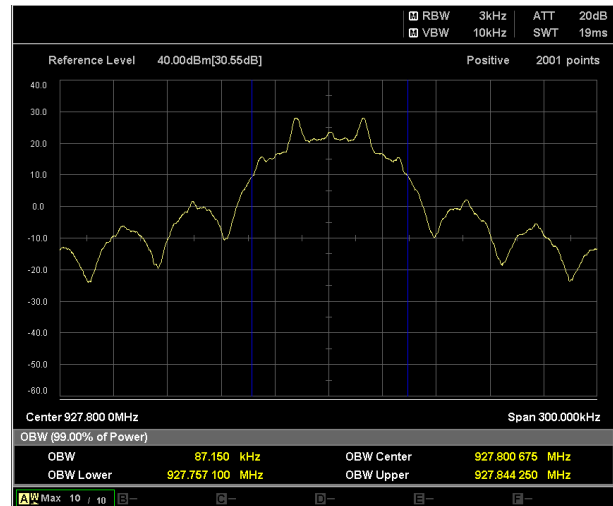


**20dB Bandwidth**



**99% Bandwidth**

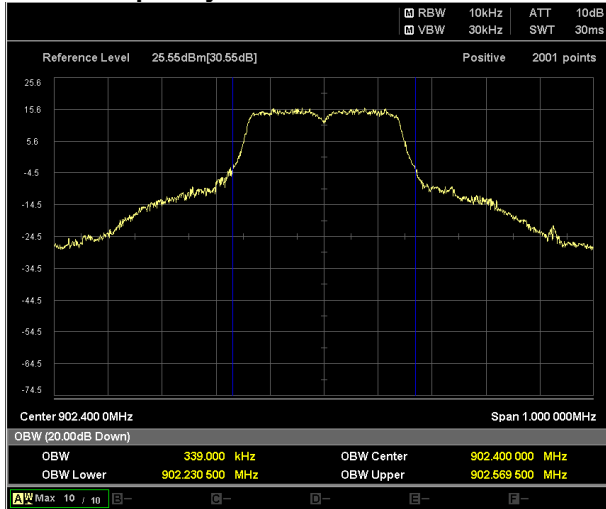


**Mode of Operation: 6**  
**Data Rate: 38.4kbps**
**Channel frequency: 904.0MHz**

**20dB Bandwidth**

**99% Bandwidth**
**Channel frequency: 915.2MHz**

**20dB Bandwidth**

**99% Bandwidth**
**Channel frequency: 927.8MHz**

**20dB Bandwidth**

**99% Bandwidth**

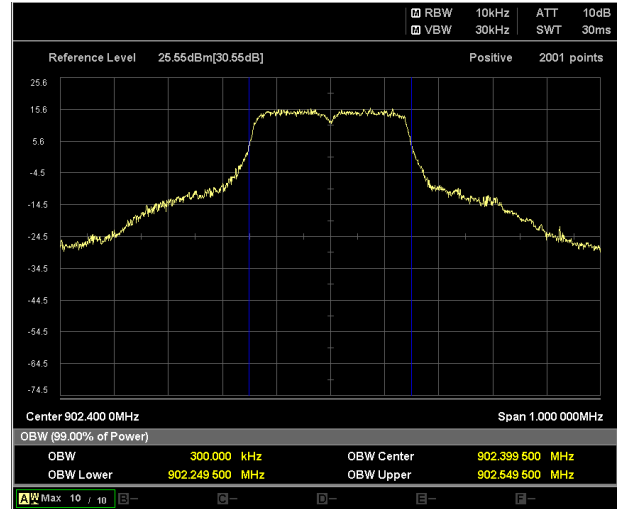


**Mode of Operation: 7**  
**Data Rate: MCS6**

**Channel frequency: 902.4MHz**

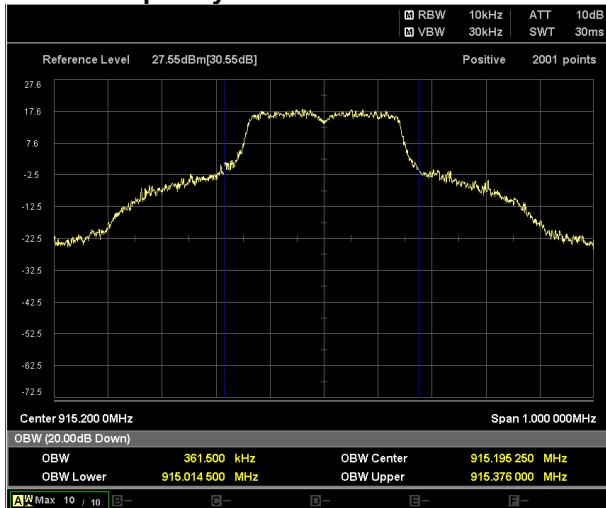


**20dB Bandwidth**

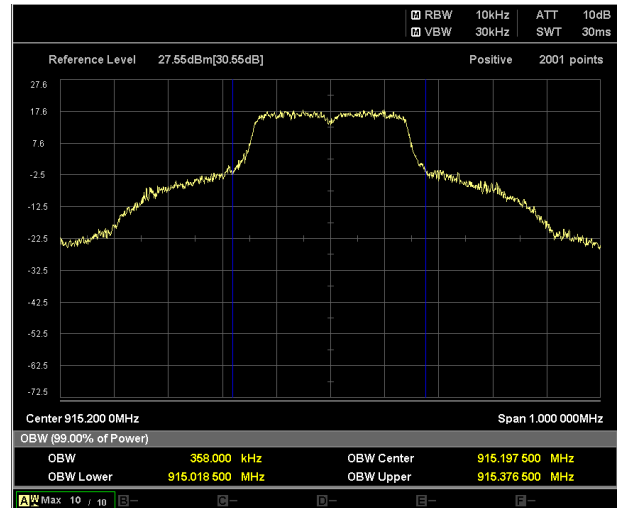


**99% Bandwidth**

**Channel Frequency: 915.2MHz**

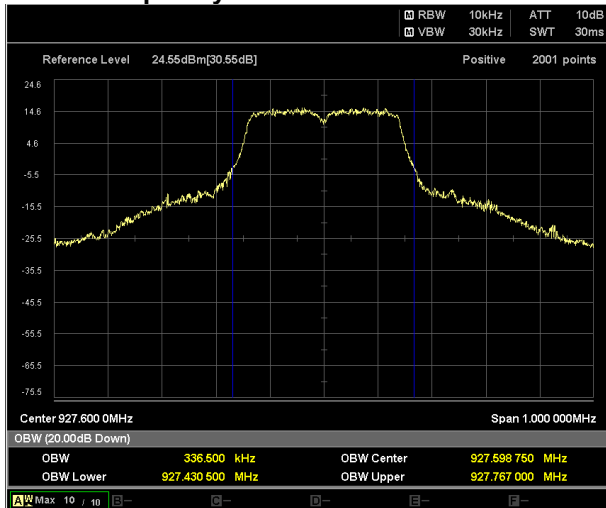


**20dB Bandwidth**

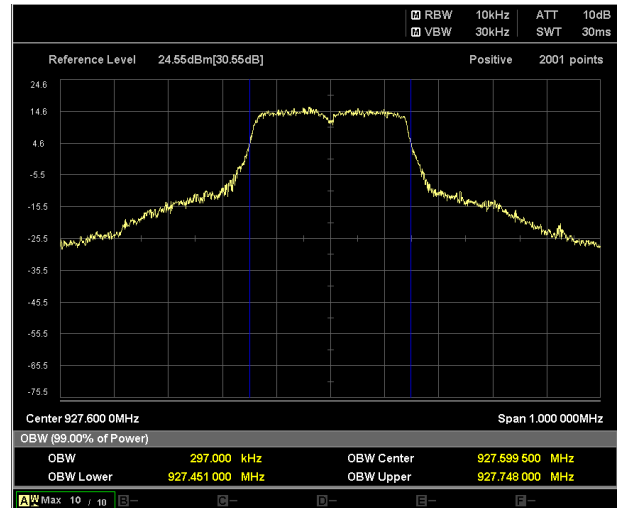


**99% Bandwidth**

**Channel Frequency: 927.6MHz**



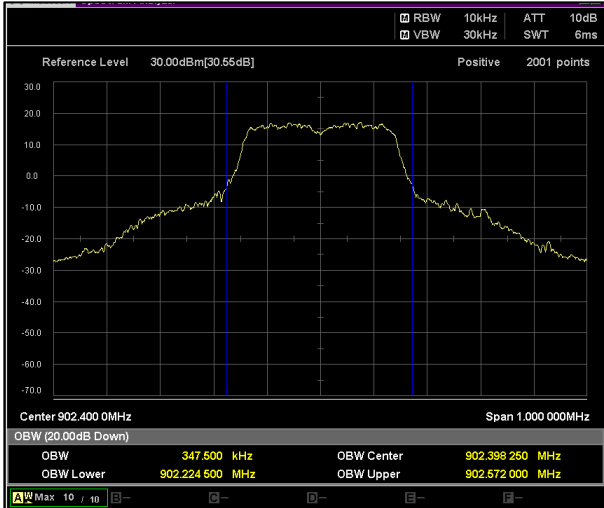
**20dB Bandwidth**



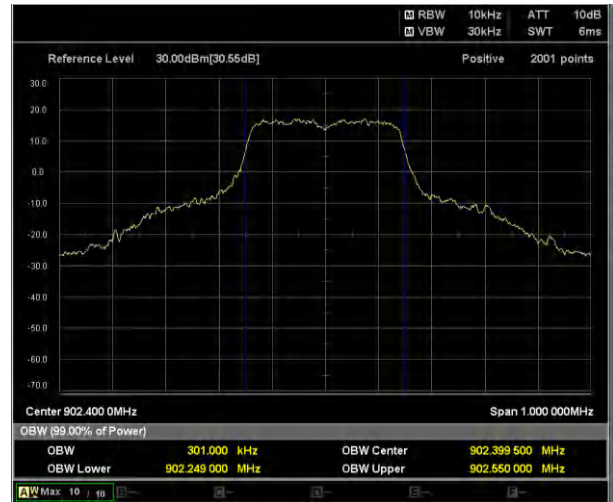
**99% Bandwidth**

Mode of Operation: 8  
Data Rate: MCS2

Channel frequency: 902.4MHz

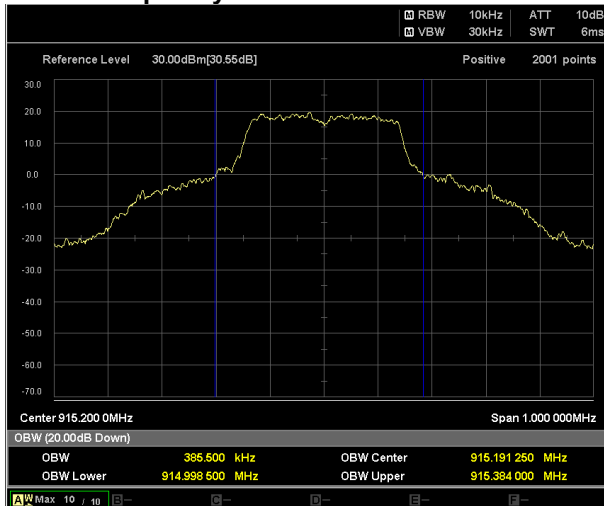


20dB Bandwidth

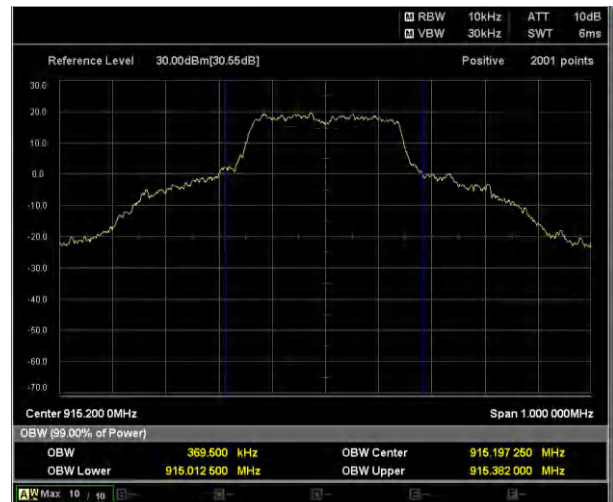


99% Bandwidth

Channel Frequency: 915.2MHz

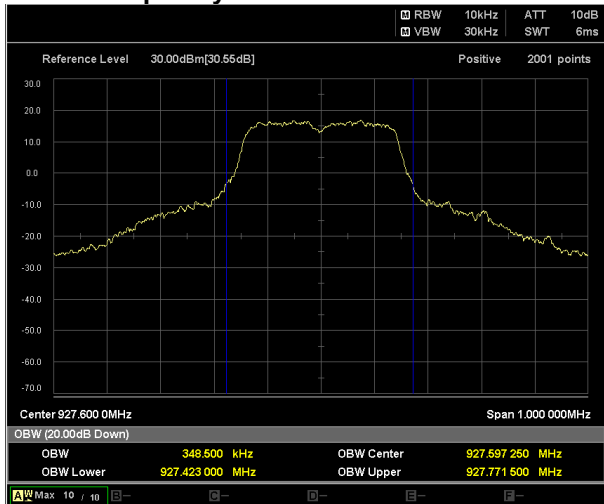


20dB Bandwidth

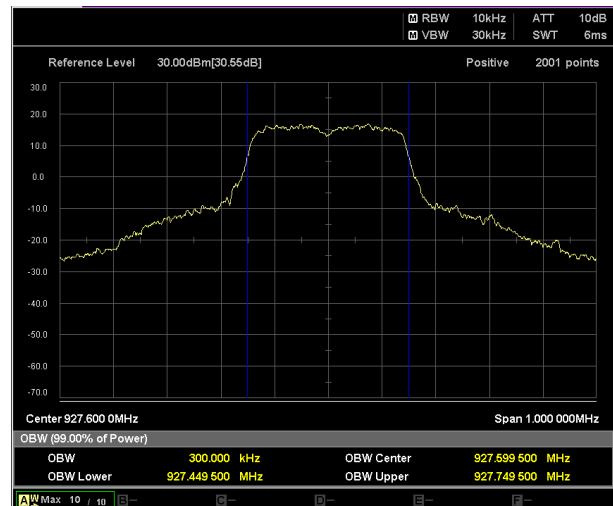


99% Bandwidth

Channel Frequency: 927.6MHz



20dB Bandwidth



99% Bandwidth

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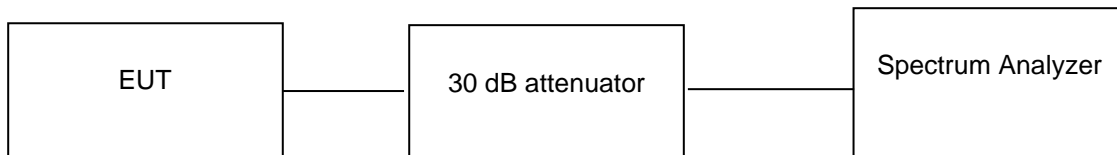
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## 7.5 Number of Hopping Channels

<i>Result</i>	<i>Pass</i>
Test Specification	FCC Part 15 Subpart C Section 15.247 (a) (1) (i) RSS-247 issue 3 5.1 (c)
Test Method	Subclause 7.8.3 of ANSI C63.10
Measurement Bandwidth	30kHz & 100 kHz
Detector	Peak
Port of testing	Antenna port
Requirement	Frequency hopping systems operating in the band 902.2-928 MHz shall use at least 50 hopping channels if the minimum 20 dB bandwidth is less than 250 kHz.

### Test Method:



### Test Condition

#### Normal Test Condition:

Temperature (Norm) = + 22.1 °C

Voltage = 3.6VDC through evaluation board

Relative humidity: 65%

### KDB Guidelines applied:

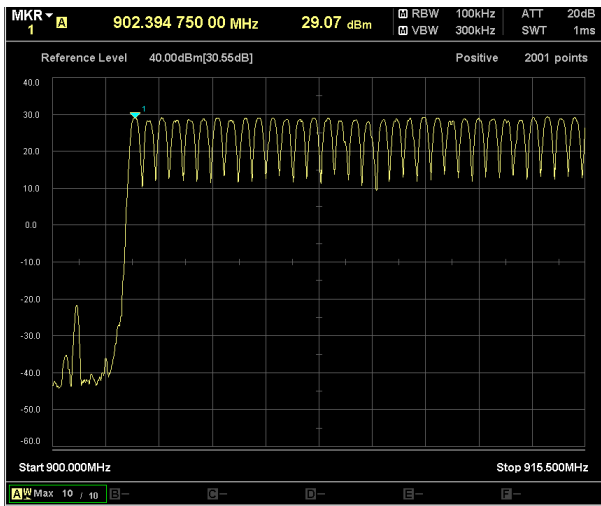
Measurements were made as per section 9(b) in KDB 558074 D01 15.247 Measurement Guidance v05r02.

**Test results:**

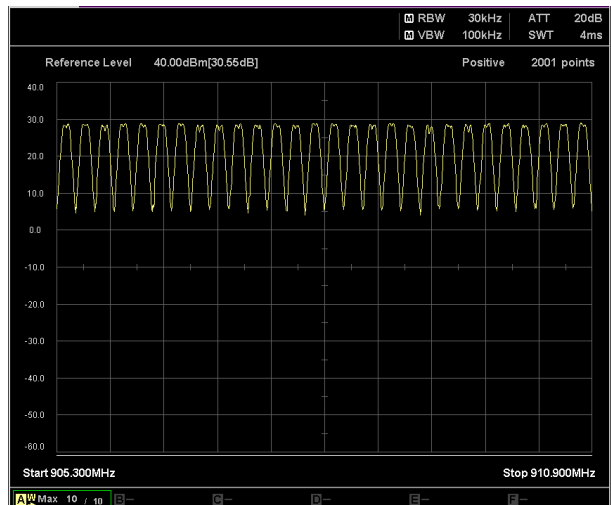
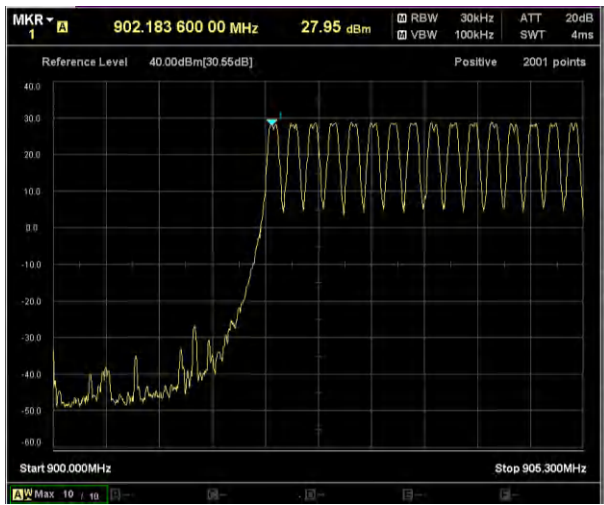
**Note:**

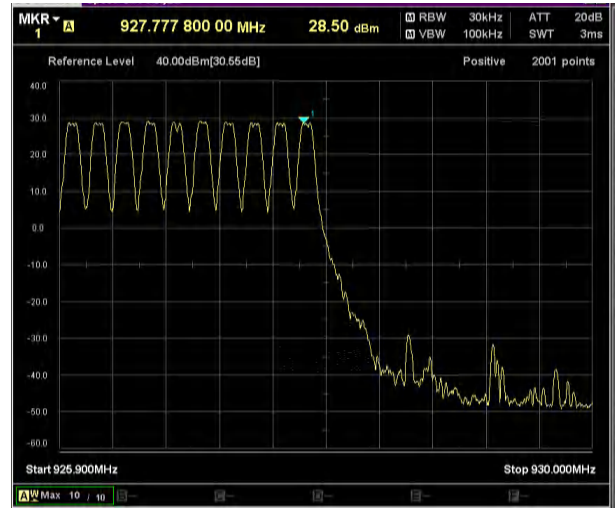
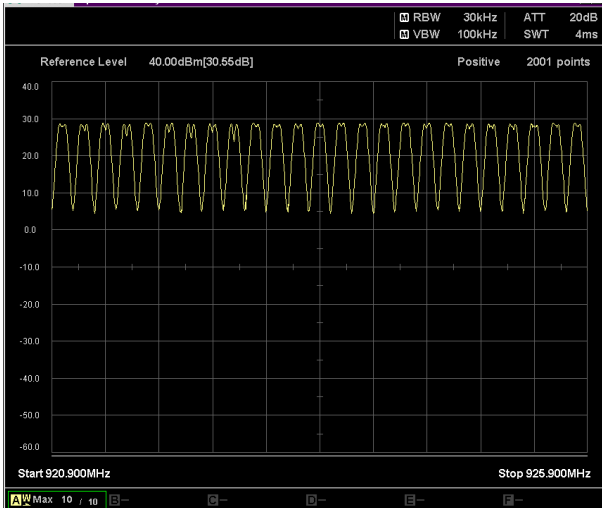
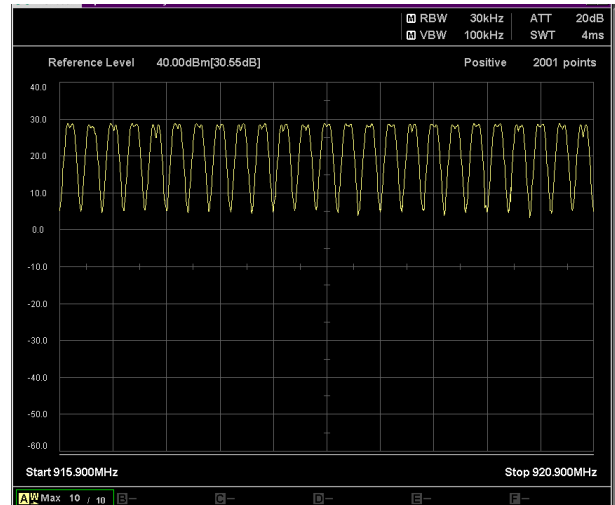
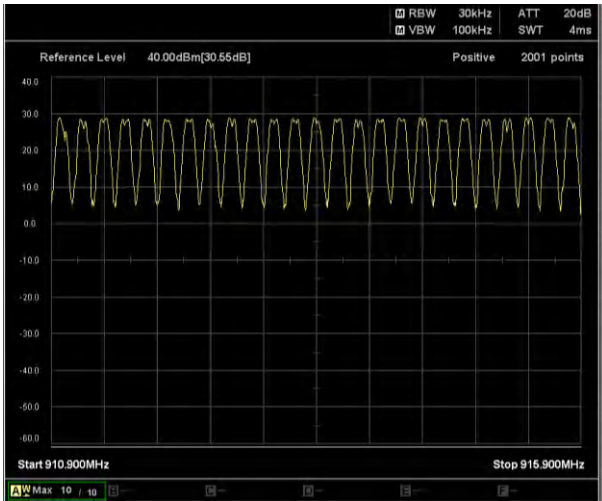
1. All the losses are included during measurement and final values are mentioned in the test report.

**Mode of Operation:1 & Data Rate: 200kbps**

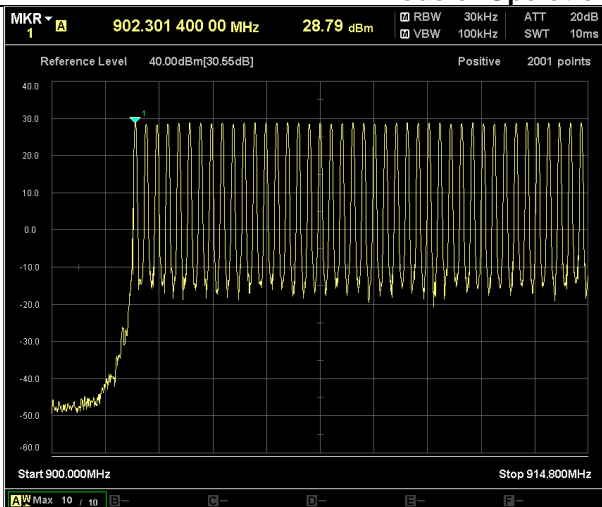


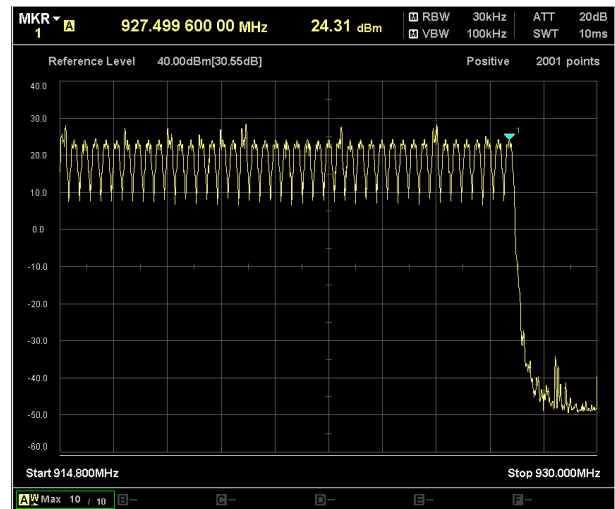
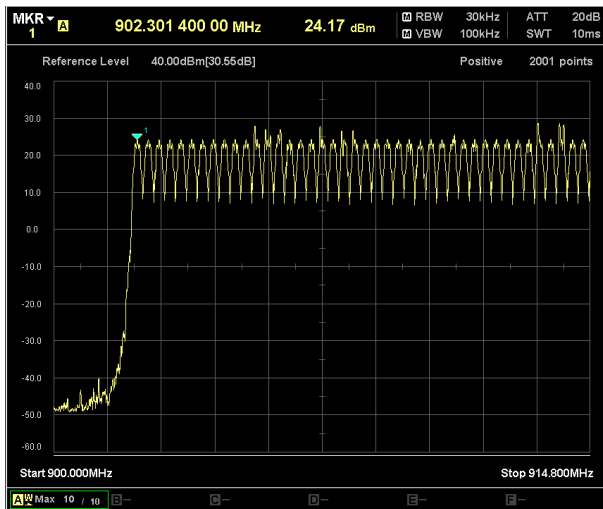
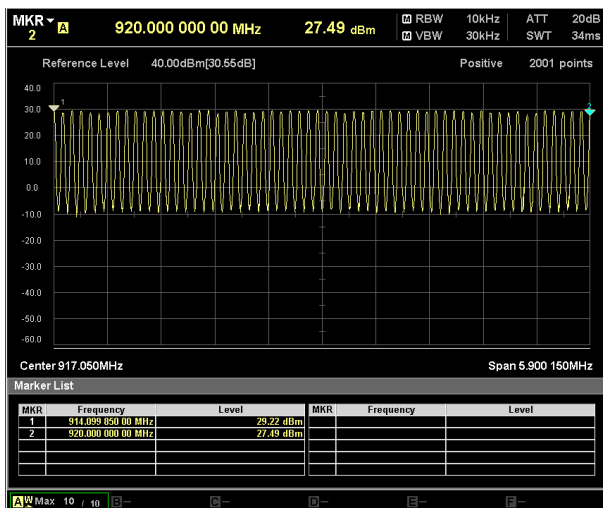
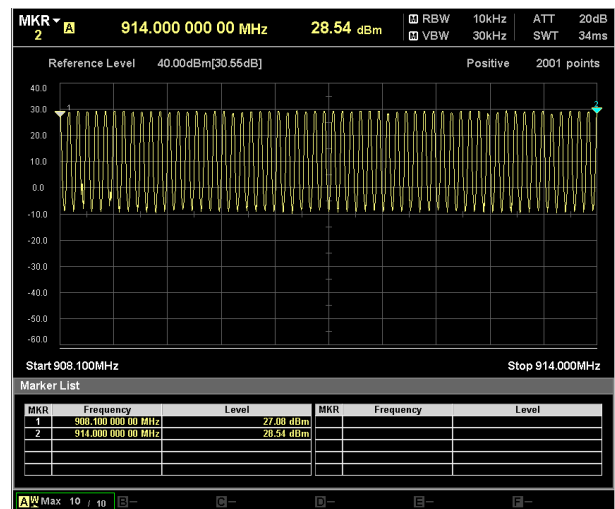
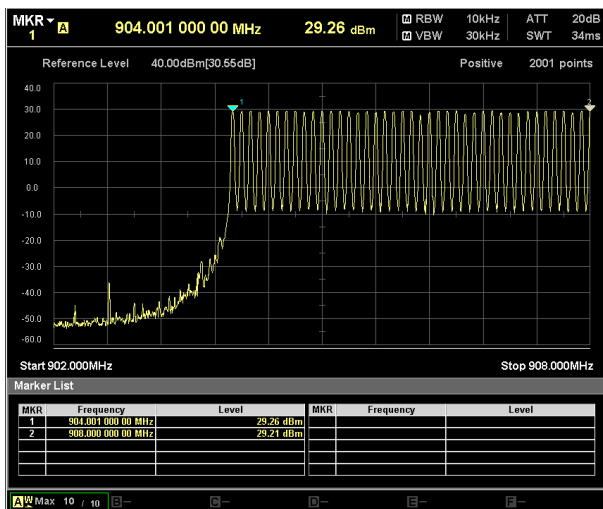
**Mode of Operation:2 & Data Rate: 50kbps**

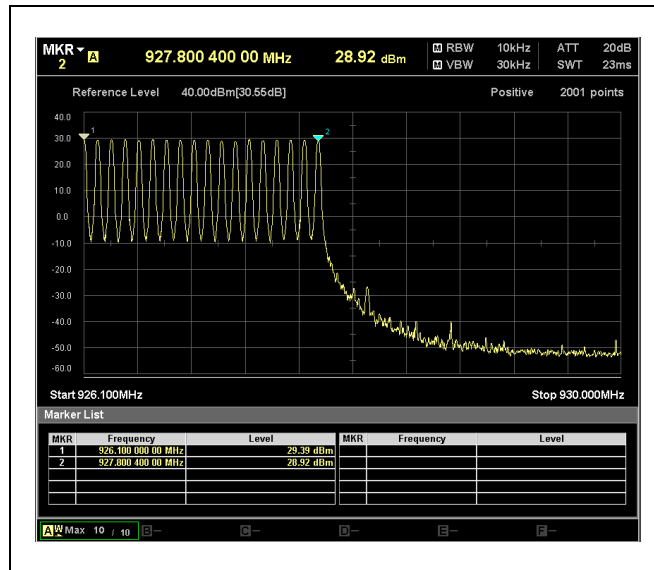




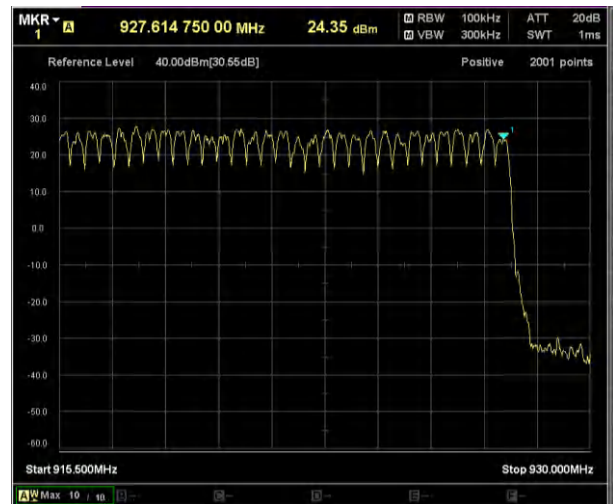
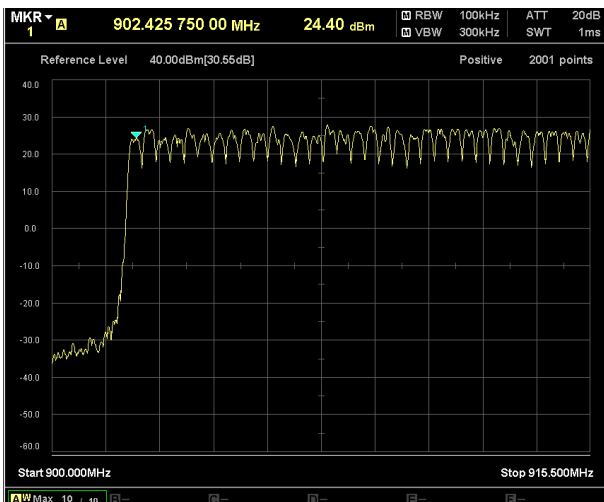
Mode of Operation: 4 & Data Rate: 9.6kbps



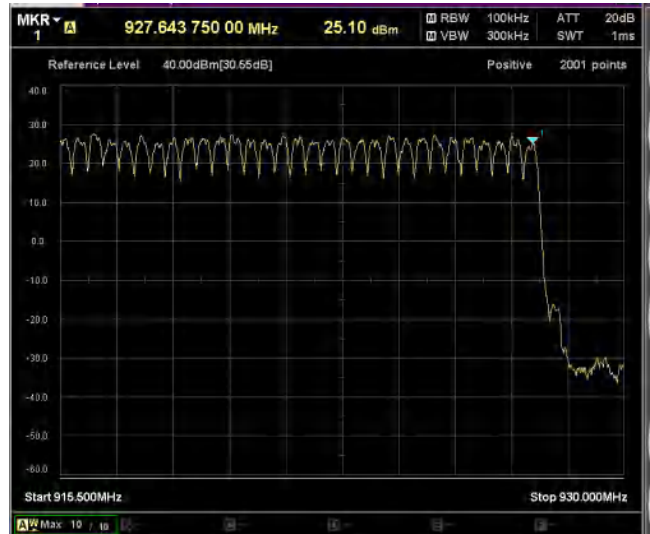
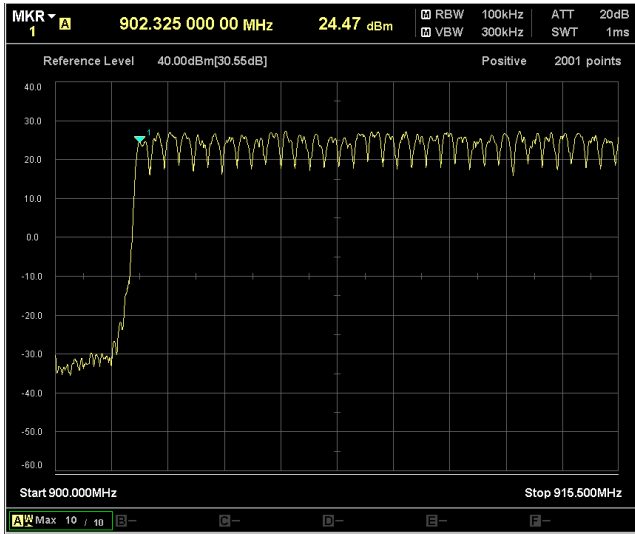
**Mode of Operation: 5 & Data Rate: 115.2kbps**

**Mode of Operation: 6 & Data Rate: 9.6kbps**




**Mode of Operation:7 & Data Rate: MCS6**



Mode of Operation:8 & Data Rate: MCS2



Mode	Data Rate (kbps)	No. Of Channels captured
1	200	64
2	50	129
4	9.6	86
5	115.2	85
6	9.6	239
7	MCS6	64
8	MCS2	64

**\*Note:** Mode 3 test results addressed in Mode 1 since data rates & Operating frequencies are same.



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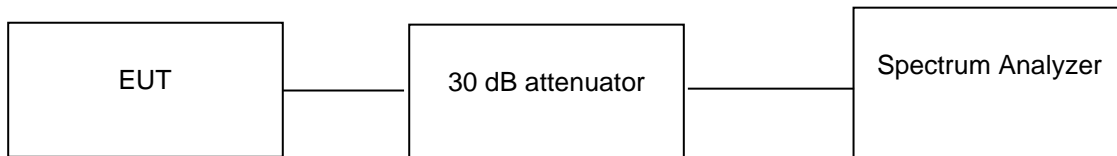
## 7.6 Carrier Frequency Separation

**Result**

**Pass**

Test Specification	FCC Part 15 Subpart C Section 15.247 (a) (1) RSS-247 issue 3 5.1 (b)
Test Method	Clause 7.8.2 of ANSI C63.10
Measurement Bandwidth	100kHz
Detector	Peak
Port of testing	Antenna port
Requirement	Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

**Test Method:**



**Test Condition**

**Normal Test Condition:**

Temperature (Norm) = + 22.1 °C      Voltage = 3.6VDC through evaluation board      Relative humidity: 65%

**KDB Guidelines applied:**

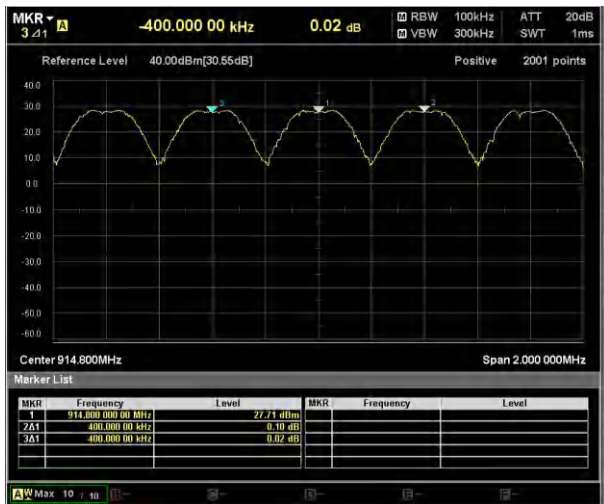
Measurements were made as per section 9(b) in KDB 558074 D01 15.247 Measurement Guidance v05r02.

**Test results:**

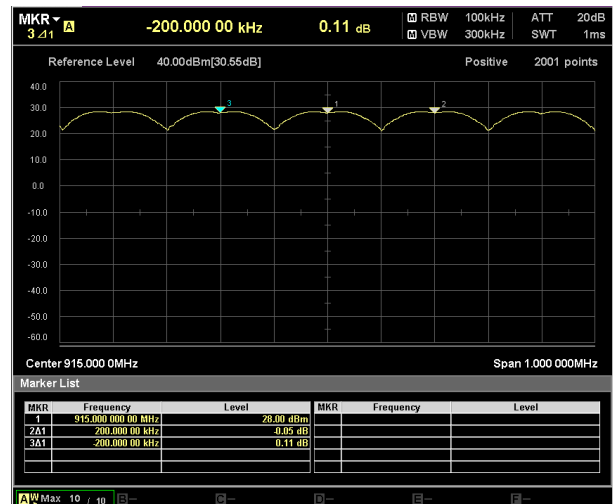
**Note:**

1. All the losses are included during measurement and final values are mentioned in the test report.

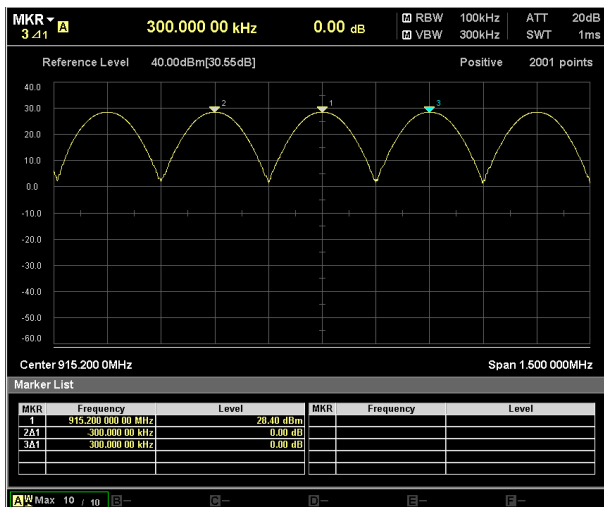
**Mode of Operation: 1 & Data Rate: 200kbps**



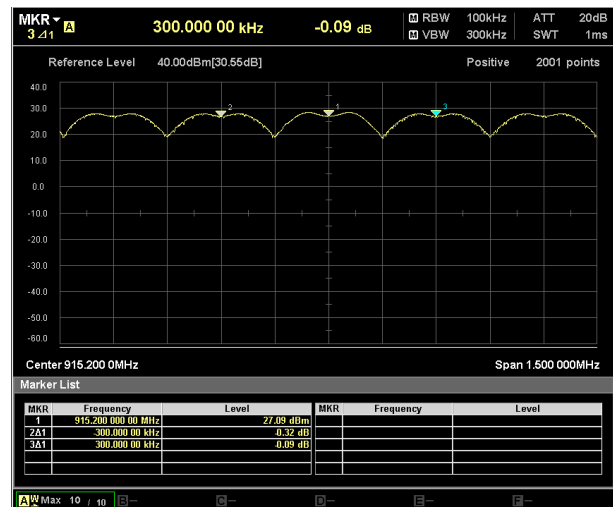
**Mode of Operation: 2 & Data Rate: 50kbps**

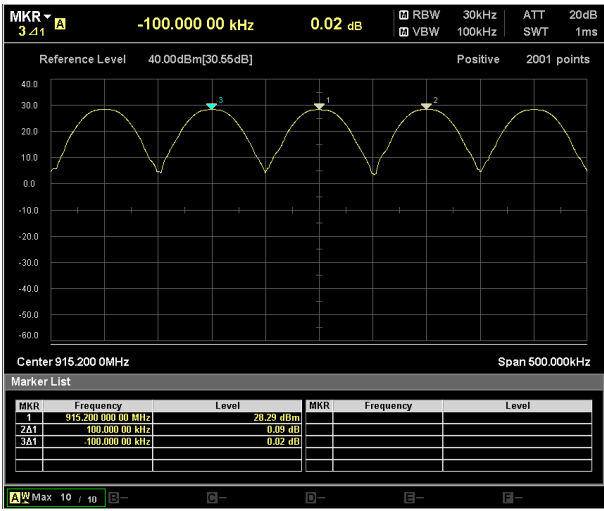
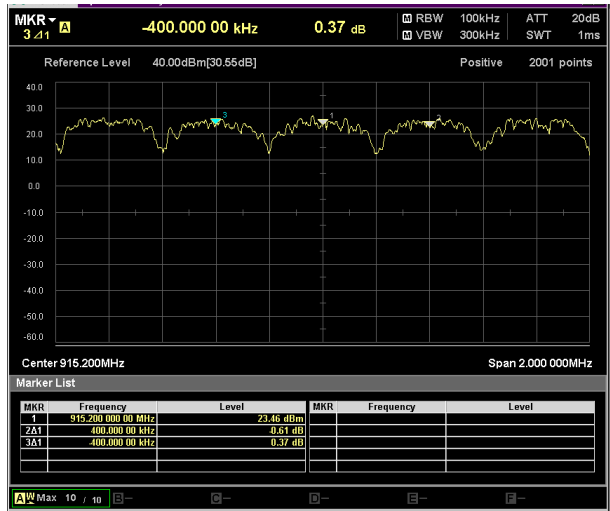
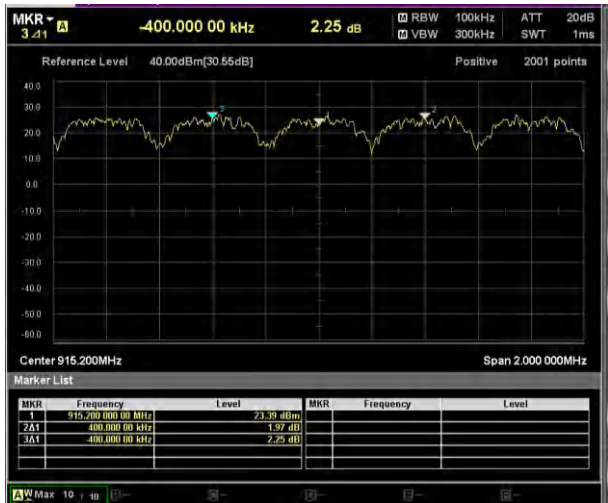


**Mode of Operation: 4 & Data Rate: 9.6kbps**



**Mode of Operation: 5 & Data Rate: 115.2kbps**



**Mode of Operation: 6 & Data Rate: 9.6kbps**

**Mode of Operation: 7 & Data Rate: MCS6**

**Mode of Operation: 8 & Data Rate: MCS3**


Mode	Data Rate (kbps)	Carrier Separation (kHz)
1	200	400
2	50	200
4	9.6	300
5	115.2	300
6	9.6	100
7	MCS6	400
8	MCS3	400

**\*Note:** Mode 3 test results addressed in Mode 1 since data rates & Operating frequencies are same.

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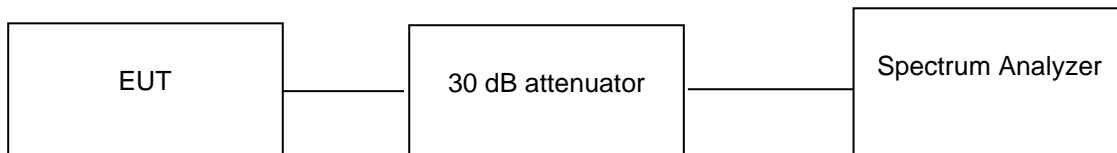
## 7.7 Time of Occupancy (Dwell Time)

### Result

### Pass

Test Specification	FCC Part 15 Subpart C Section 15.247 (a) (1) (i) RSS-247 issue 3 5.1 (c) & 5.3 (a)
Test Method	Clause 7.8.4 of ANSI C63.10
Measurement Bandwidth	100 kHz
Detector	Peak
Port of testing	Antenna port
Requirement	If the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period. With the digital transmission operation of the hybrid system turned off ,the frequency hopping operation shall have an average time ofoccupancy on any frequency not exceeding 0.4 seconds within aduration in seconds equal to the number of hopping frequenciesmultiplied by 0.4.

### Test Method:



### Test Condition

#### Normal Test Condition:

Temperature (Norm) = + 22.1 °C      Voltage = 3.6VDC Through evaluation board      Relative humidity: 65%

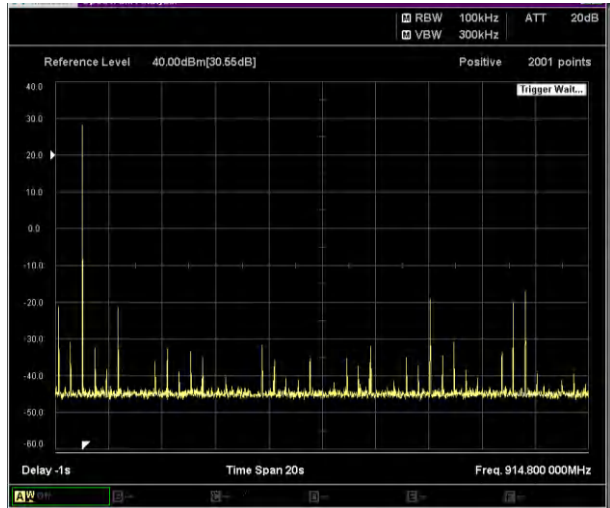
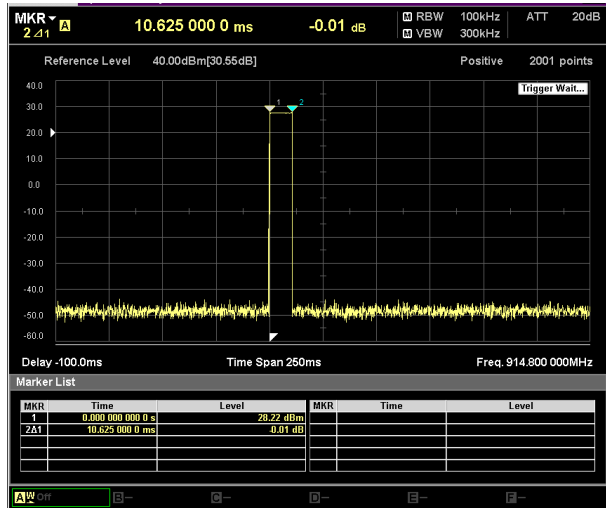
#### KDB Guidelines applied:

Measurements were made as per section 9(b) & 10(b)(6)(iv) in KDB 558074 D01 15.247 Measurement Guidance v05r02.

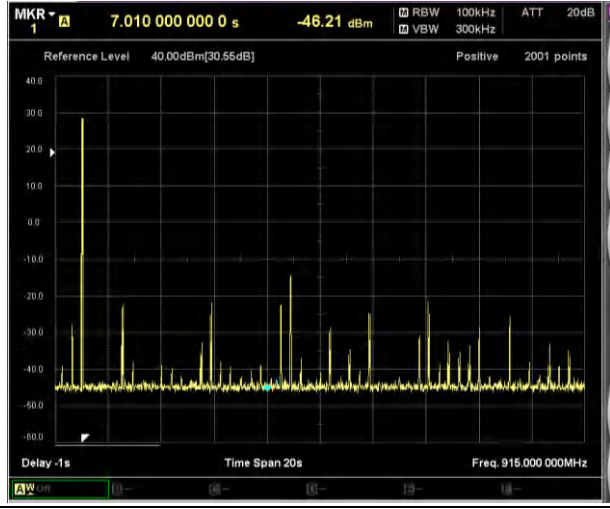
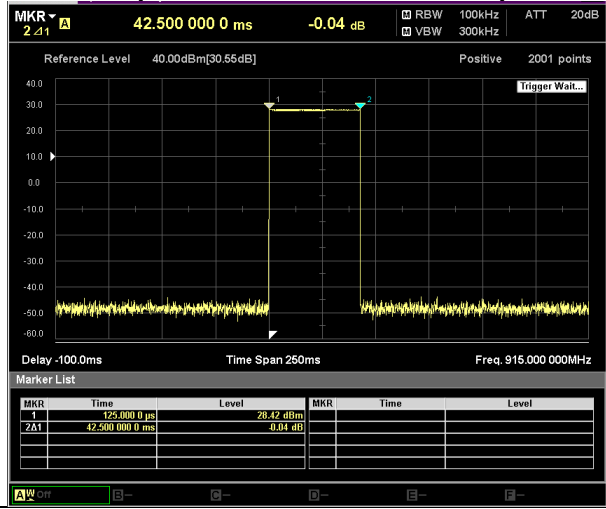
**Test results:**  
**Note:**

1. All the losses are included during measurement and final values are mentioned in the test report.

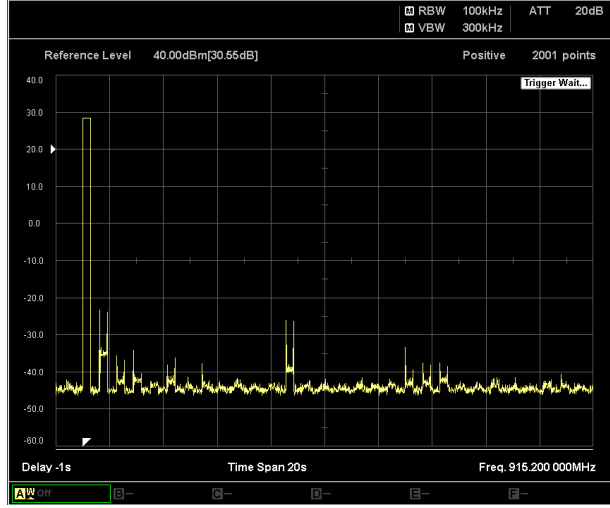
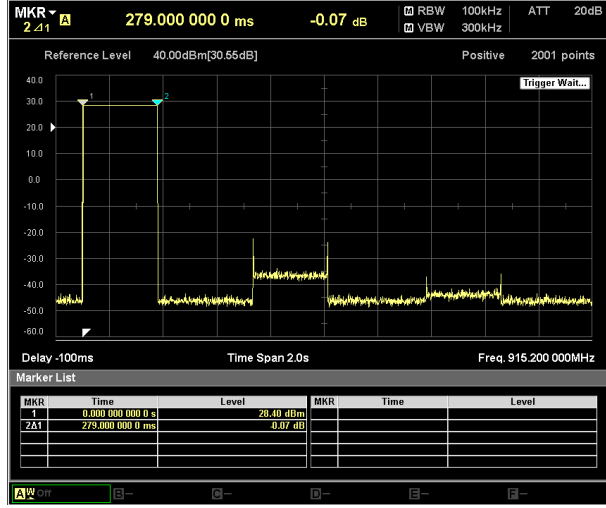
**Mode of Operation: 1 & Data Rate: 200kbps**



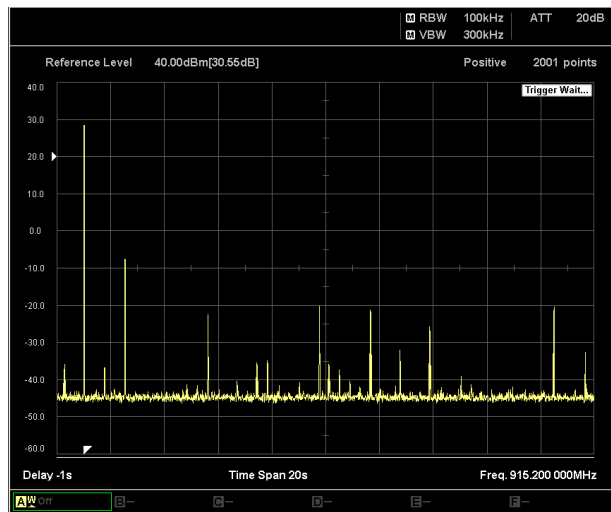
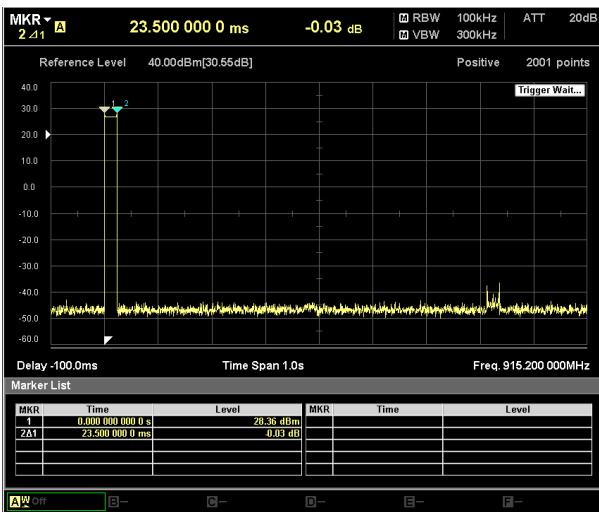
**Mode of Operation: 2 & Data Rate: 50kbps**



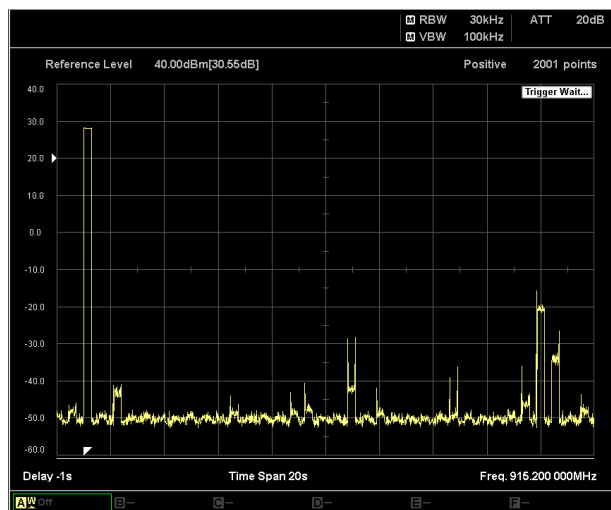
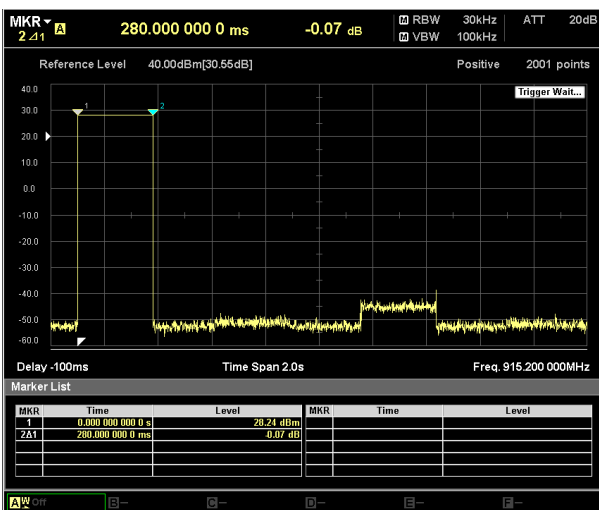
**Mode of Operation: 4 & Data Rate: 9.6kbps**



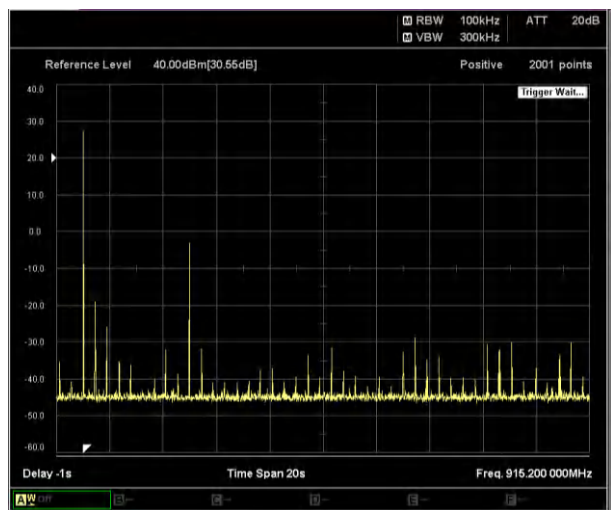
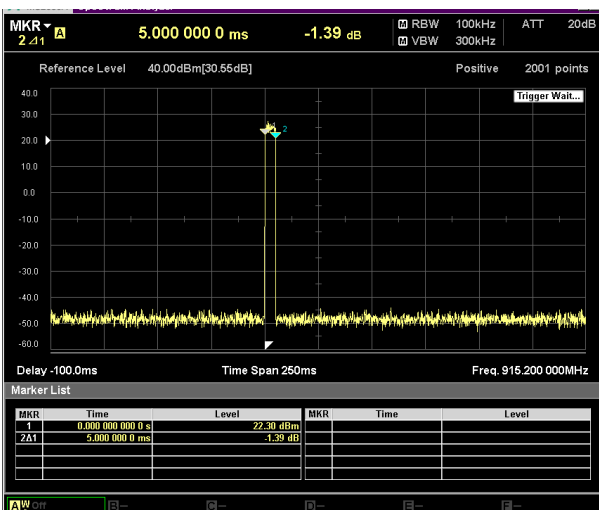
Mode of Operation: 5 & Data Rate: 115.2kbps



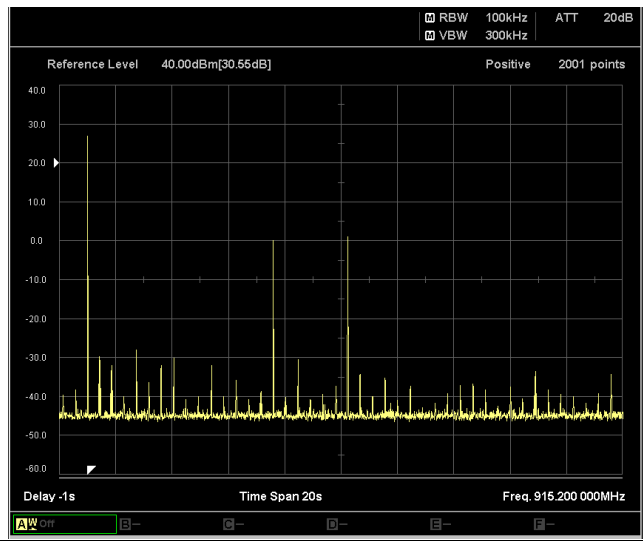
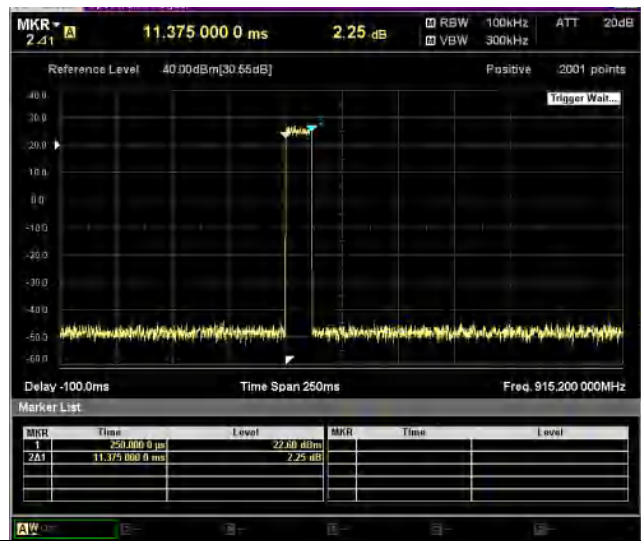
Mode of Operation: 6 & Data Rate: 9.6kbps



Mode of Operation: 7 & Data Rate: MCS6



**Mode of Operation: 8 & Data Rate: MCS3**



Mode of Operation	Dwell time (ms)	Total no.of bins	Max allowed time(Sec)	Total time occupancy (msec)
1	10.625	1	0.4	10.625
2	42.50	1	0.4	42.50
4	279.00	1	0.4	279.00
5	23.50	1	0.4	23.50
6	280.00	1	0.4	280.00
7	5.00	1	0.4	5.00
8	11.37	1	0.4	11.37

Total time occupancy in 20s = Dwell time \* no.of bins it should be less than 400ms)

**\*Note:** Mode 3 test results addressed in Mode 1 since data rates & Operating frequencies are same.

## 7.8 Emissions in non-restricted frequency bands and Conducted Spurious Emission

**Result**

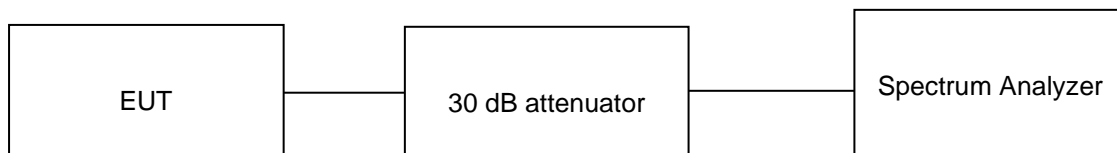
**Pass**

Test Specification	FCC part 15 Subpart C 15.247 (d) RSS-247 issue 3 Clause 5.5
Test Method	Subclause 7.8.8 of ANSI C63.10
Measurement Bandwidth	100 kHz
Detector	Peak
Port of testing	Antenna port

Requirement

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB

**Test Method:**



**Test Condition**

**Normal Test Condition:**

Temperature (Norm) = + 22.1 °C      Voltage = 3.6VDC through evaluation board      Relative humidity: 65%

**KDB Guidelines applied:**

Measurements were made as per section 9(b) in KDB 558074 D01 15.247 Measurement Guidance v05r02.



**Test results:**

**Note:**

1. All the losses are included during measurement and final values are mentioned in the test report
2. Final Value (dBm) = Measured Value (dBm) + Attenuator factor (30dB) + Cable loss (0.55dB)
3. This product do not support additional beamforming gain / directional gain, it uses single antenna and hence Directional gain of the single antenna is 1 dBi.

**7.8.1 Band edge**

**Device in non-Hopping mode:**

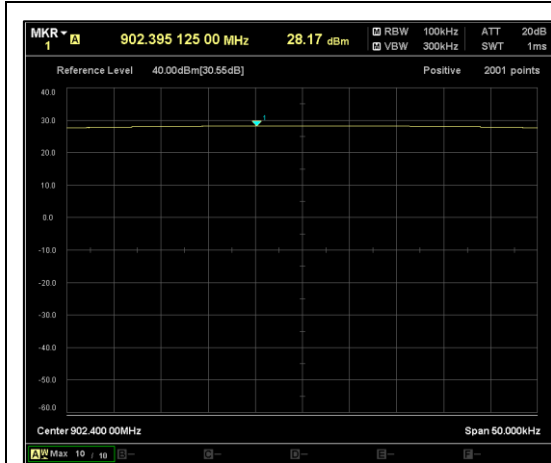
Mode of Operation	Stack /Mode	Data Rate	Channel frequency (MHz)	Value at band edge (A) (dBm)	Band edge frequency (MHz)	Reference value (B) (dBm)	A-B (dBc)	Minimum Limit (dBc)		
1	MESH IP (SBS) (802.15.4 SUN FSK)	10	902.4	-19.93	902	28.17	-48.10	-20		
			927.6	-20.48	928	28.48	-48.96	-20		
		20	902.4	-19.86	902	28.18	-48.04	-20		
			927.6	-20.5	928	28.44	-48.94	-20		
		50	902.4	-16.59	902	28.22	-44.81	-20		
			927.6	-15.79	928	28.55	-44.34	-20		
		150	902.4	-22.22	902	28.60	-50.82	-20		
			927.6	-20.94	928	28.47	-49.41	-20		
		200	902.4	-21.02	902	28.26	-49.28	-20		
			927.6	-20.76	928	28.48	-49.24	-20		
		2	Wi-sun (802.15.4 SUN FSK)	50	902.2	4.13	902	27.98	-23.85	-20
					927.8	3.4	928	28.29	-24.89	-20
4	Mesh GSP (FSK)	9.6	902.3	-19.85	902	28.13	-47.98	-20		
			927.8	-8.57	928	28.36	-36.93	-20		
		19.2	902.3	-15.24	902	28.11	-43.35	-20		
			927.8	-4.76	928	28.4	-33.16	-20		
		38.4	902.3	-10.5	902	28.13	-38.63	-20		
			927.8	0.61	928	28.4	-27.79	-20		
5	Mesh GSP (FSK)	115.2	902.3	-7.3	902	28.07	-35.37	-20		
			927.5	-25.06	928	28.42	-53.48	-20		
6	Mesh GSP (FSK)	9.6	904	-39.97	902	28.14	-68.11	-20		
			927.8	-8.3	928	28.38	-36.68	-20		
		19.2	904	-41.49	902	28.11	-69.60	-20		
			927.8	-3.77	928	28.4	-32.17	-20		
		38.4	904	-41.54	902	28.24	-69.78	-20		
			927.8	0.49	928	28.4	-27.91	-20		
7	SBS (802.15.4 OFDM)	MCS6	902.4	-6.92	902	25.82	-32.74	-30		
			927.6	-7.62	928	25.95	-33.57	-30		
8	SBS (802.15.4 OFDM)	MCS2	902.4	-4.9	902	25.74	-30.64	-30		
			927.6	-6.4	928	25.58	-31.98	-30		
		MCS3	902.4	-4.9	902	25.73	-30.63	-30		
			927.6	-6.02	928	25.66	-31.68	-30		

**Test Plots:**

**Mode of Operation: 1**

**Data rate: 10kbps**

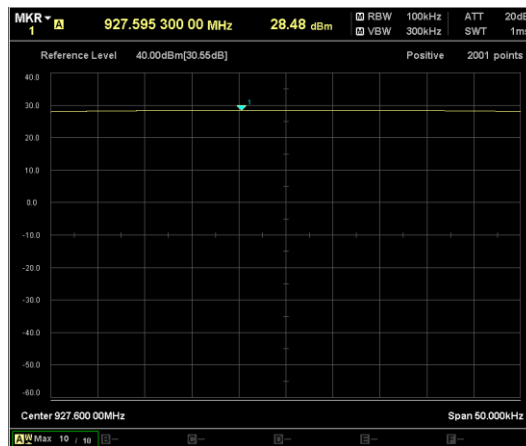
**Reference plot**



Channel frequency: 902.4MHz

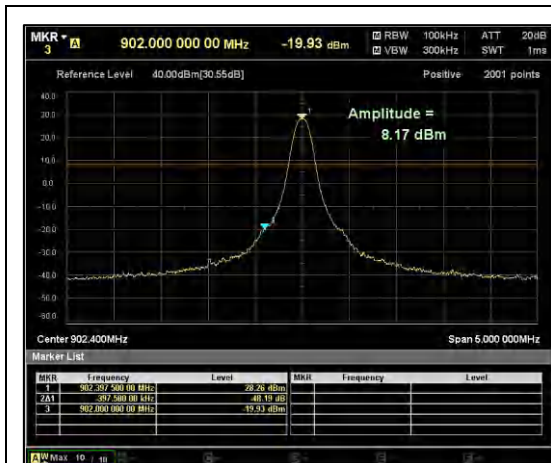


Channel frequency: 914.8MHz

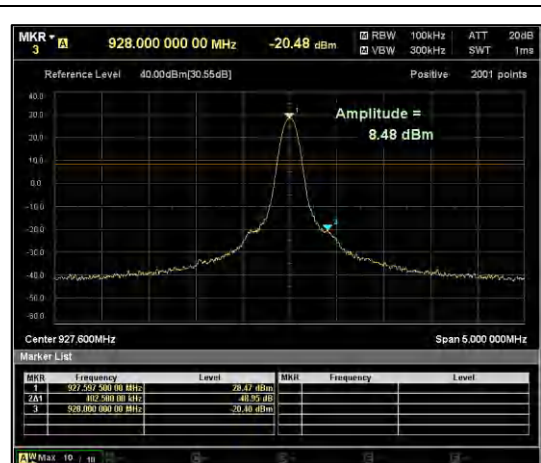


Channel frequency: 927.6MHz

**Band Edge**

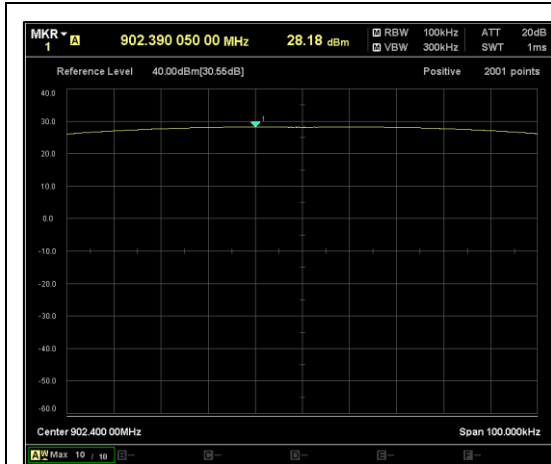


Channel frequency: 902.4MHz

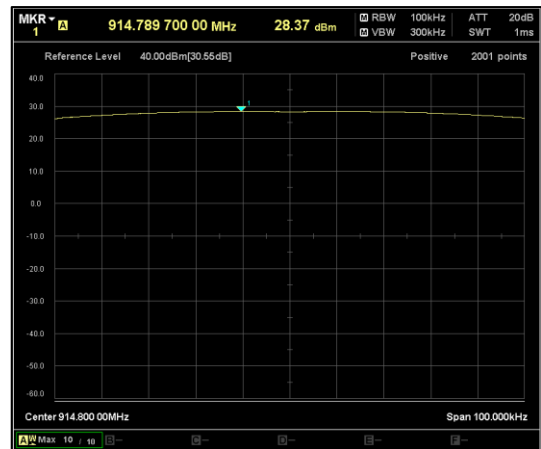


Channel frequency: 927.6MHz

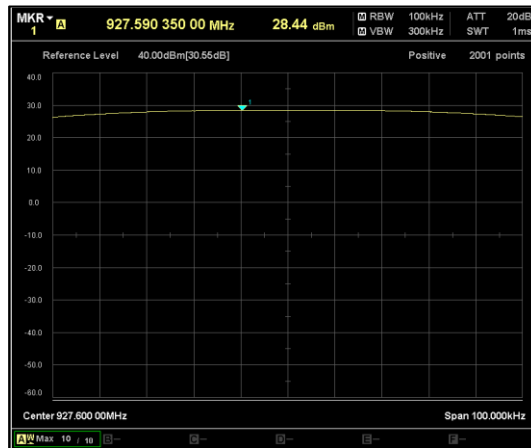
Data rate: 20kbps  
Reference plot



Channel frequency: 902.4MHz

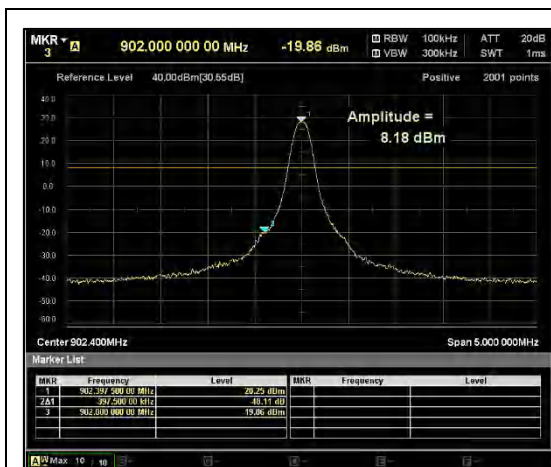


Channel frequency: 914.8MHz

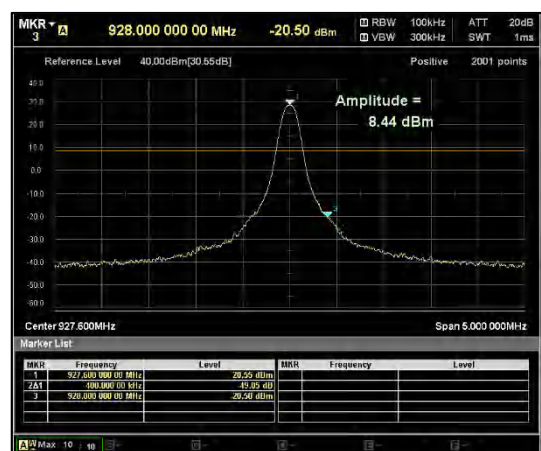


Channel frequency: 927.6MHz

**Band Edge**

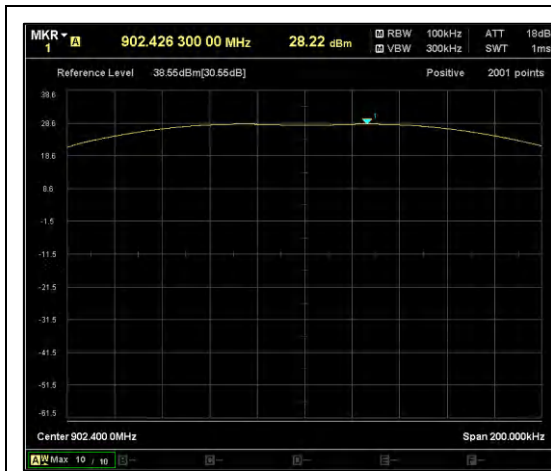


Channel frequency: 902.4MHz

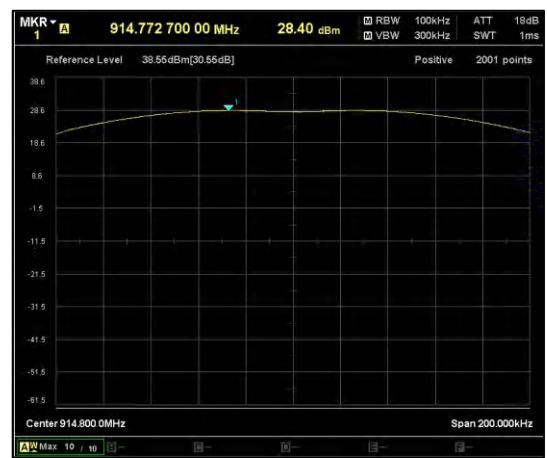


Channel frequency: 927.6MHz

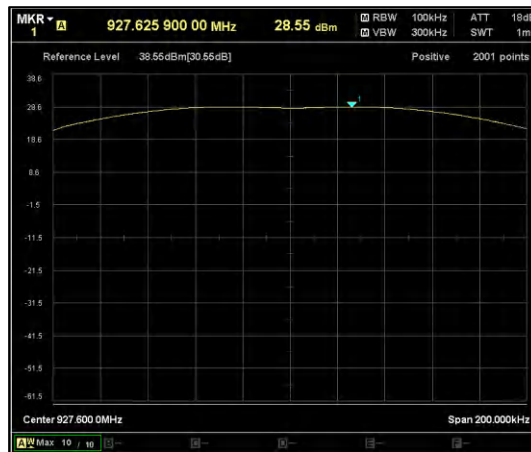
Data rate: 50kbps  
Reference plot



Channel frequency: 902.4MHz

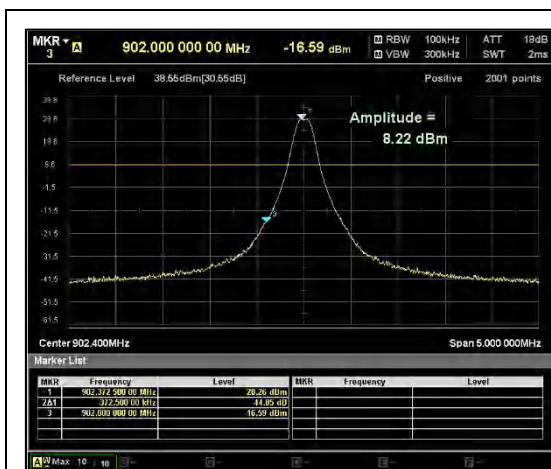


Channel frequency: 914.8MHz

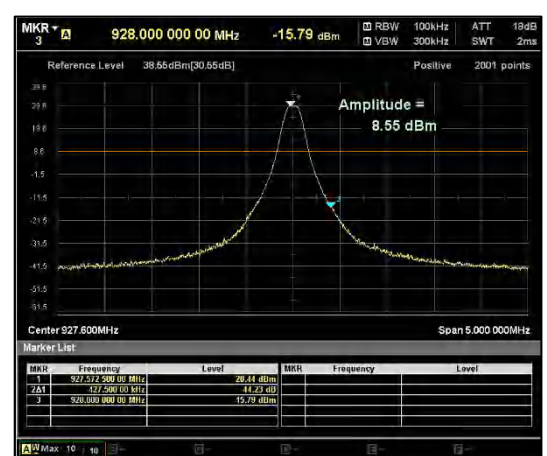


Channel frequency: 927.6MHz

Band Edge

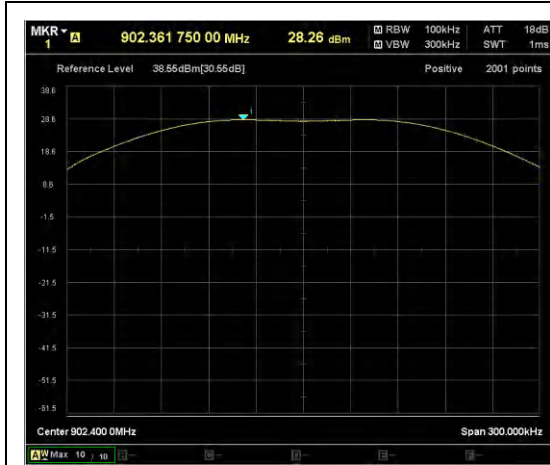


Channel frequency: 902.4MHz



Channel frequency: 927.6MHz

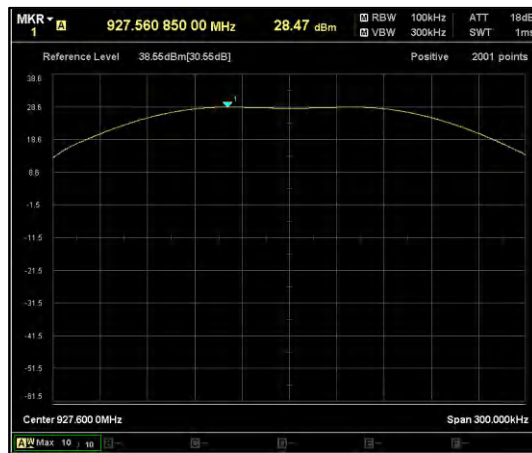
Data rate: 150kbps  
Reference plot



Channel frequency: 902.4MHz

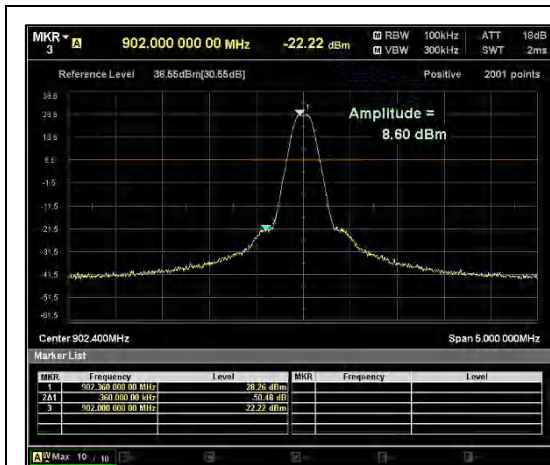


Channel frequency: 914.8MHz

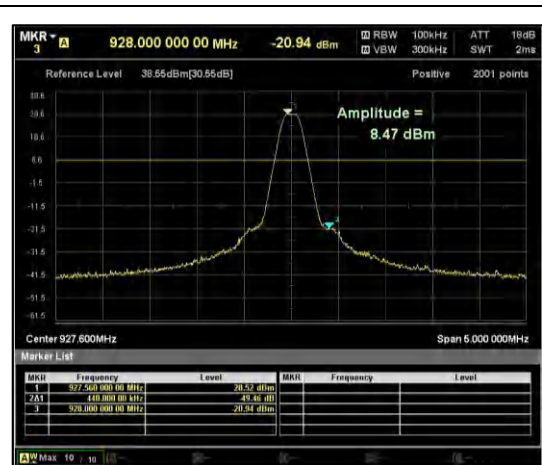


Channel frequency: 927.6MHz

**Band Edge**



Channel frequency: 902.4MHz



Channel frequency: 927.6MHz

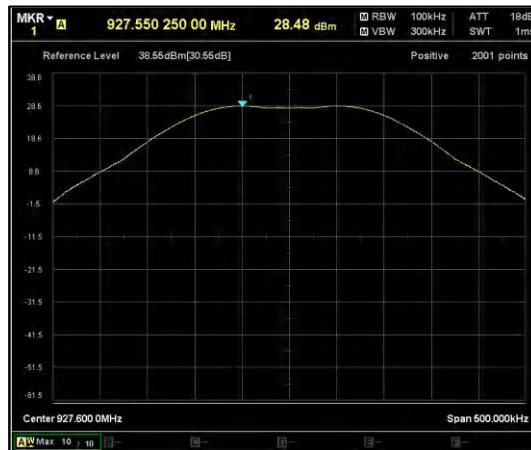
Data rate: 200kbps  
Reference plot



Channel frequency: 902.4MHz

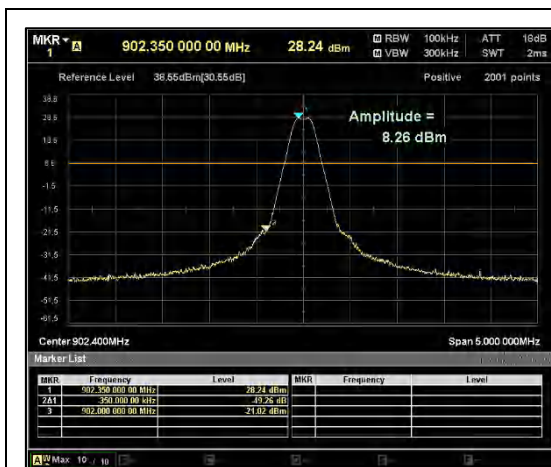


Channel frequency: 914.8MHz

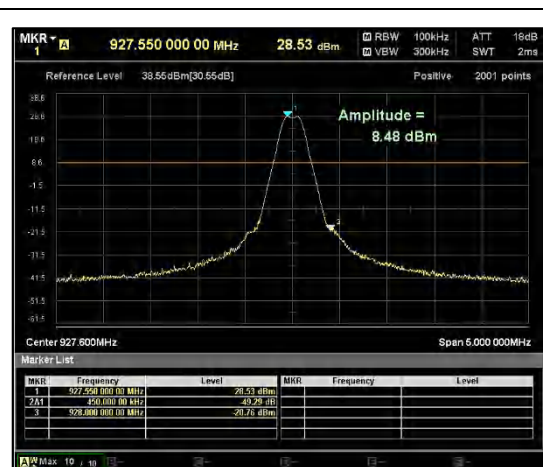


Channel frequency: 927.6MHz

Band Edge



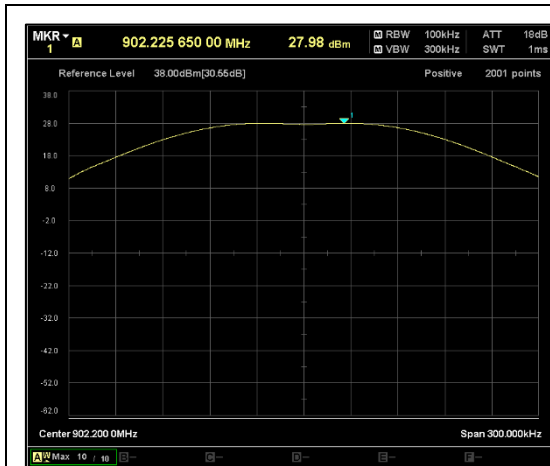
Channel frequency: 902.4MHz



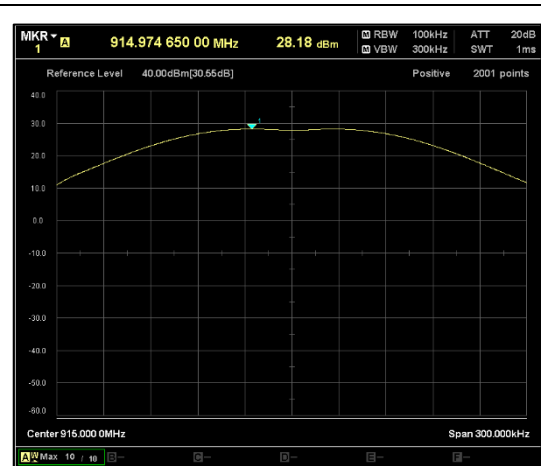
Channel frequency: 927.6MHz



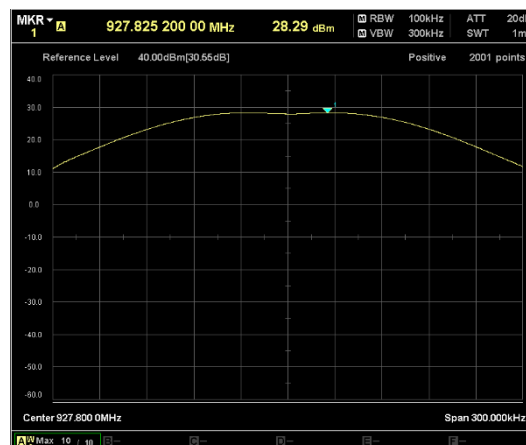
**Mode of Operation: 2**  
**Data rate: 50kbps**  
**Reference plot**



Channel frequency: 902.2MHz

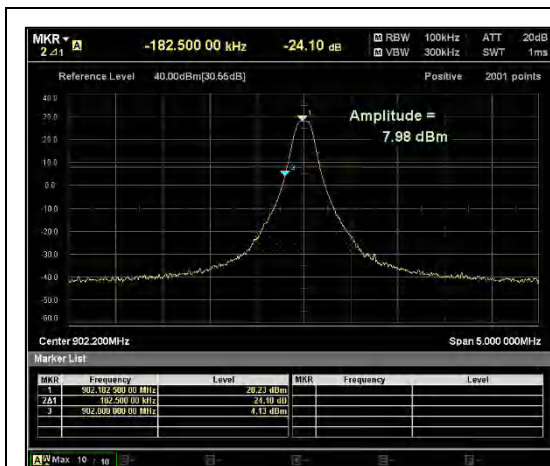


Channel frequency: 915MHz

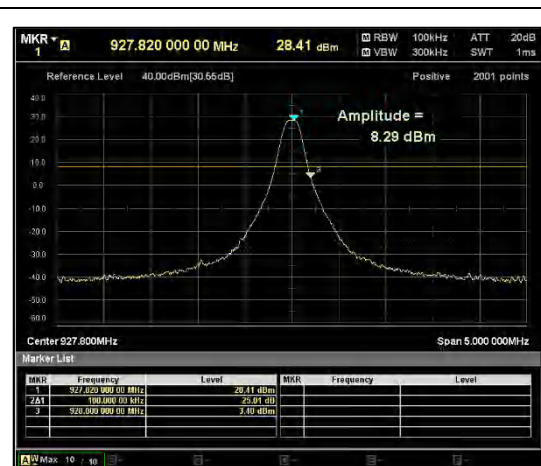


Channel frequency: 927.8MHz

**Band Edge**



Channel frequency: 902.2MHz



Channel frequency: 927.8MHz

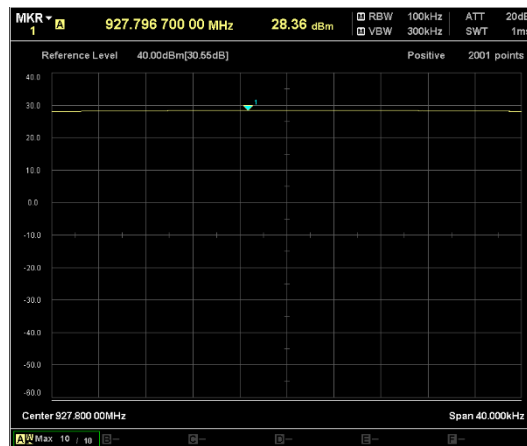
**Mode of Operation: 4**  
**Data rate: 9.6kbps**  
**Reference plot**



Channel frequency: 902.3MHz

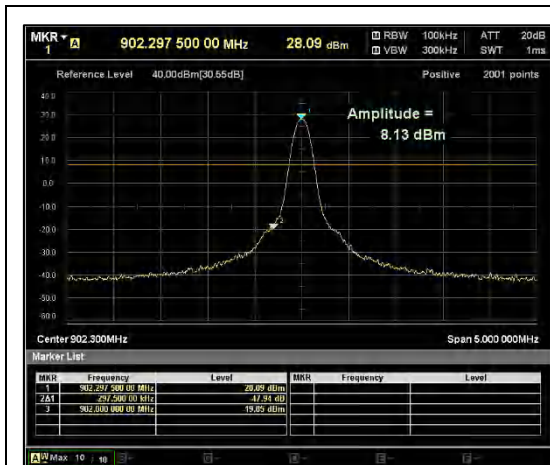


Channel frequency: 915.2MHz

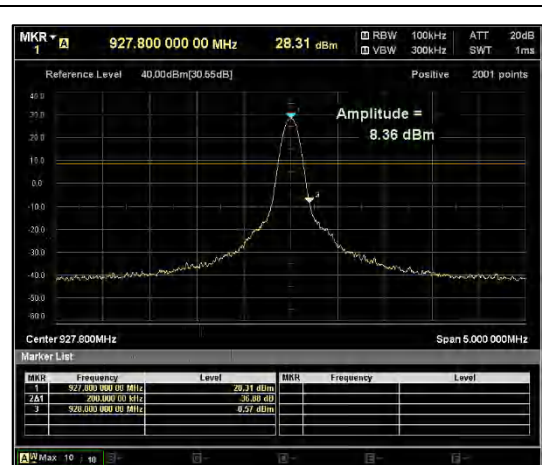


Channel frequency: 927.8MHz

**Band Edge**



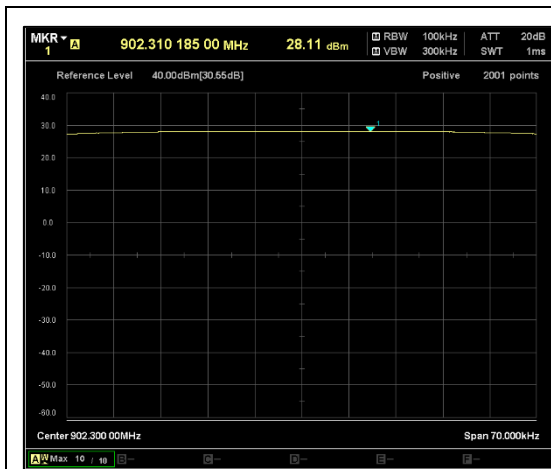
Channel frequency: 902.3MHz



Channel frequency: 927.8MHz



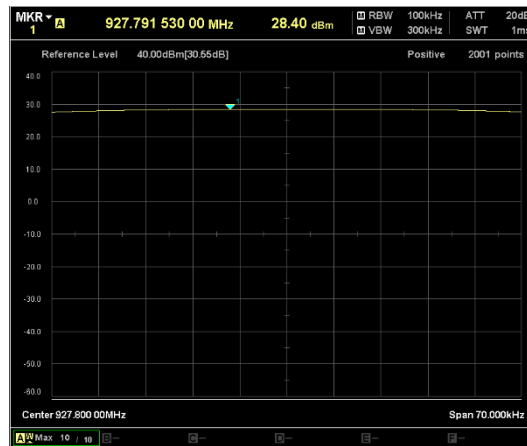
**Data rate: 19.2kbps**  
**Reference plot**



Channel frequency: 902.3MHz

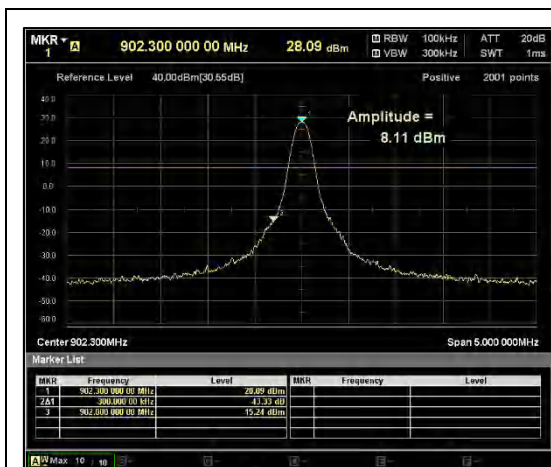


Channel frequency: 915.2MHz

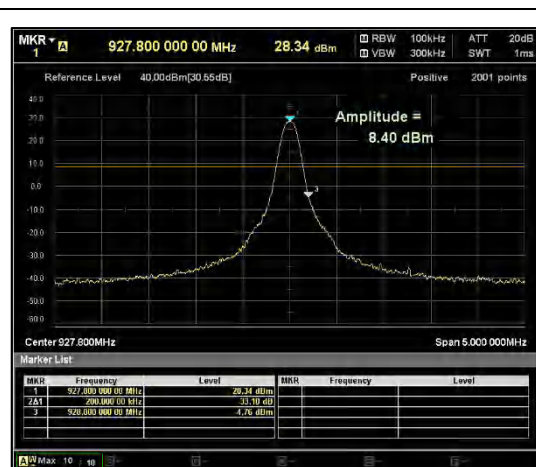


Channel frequency: 927.8MHz

**Band Edge**

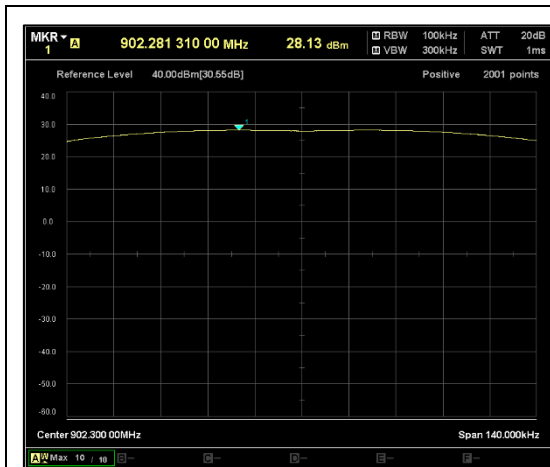


Channel frequency: 902.3MHz

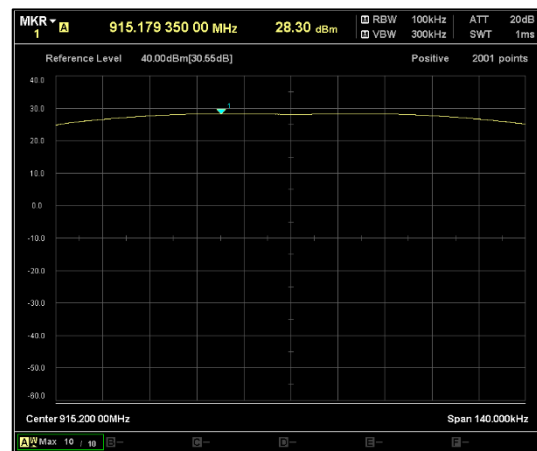


Channel frequency: 927.8MHz

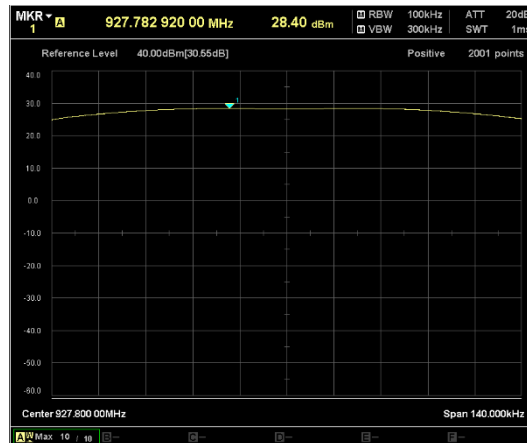
Data rate: 38.4kbps  
Reference plot



Channel frequency: 902.3MHz

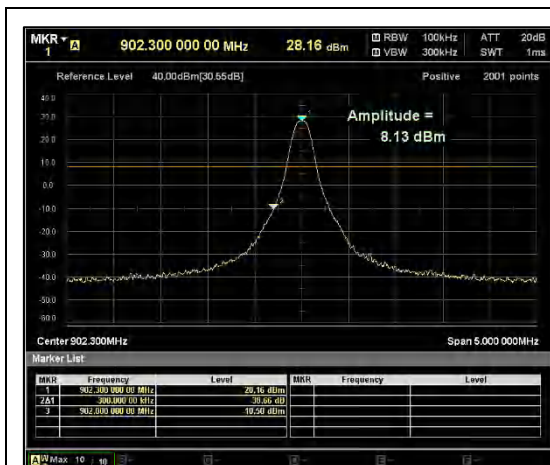


Channel frequency: 915.2MHz

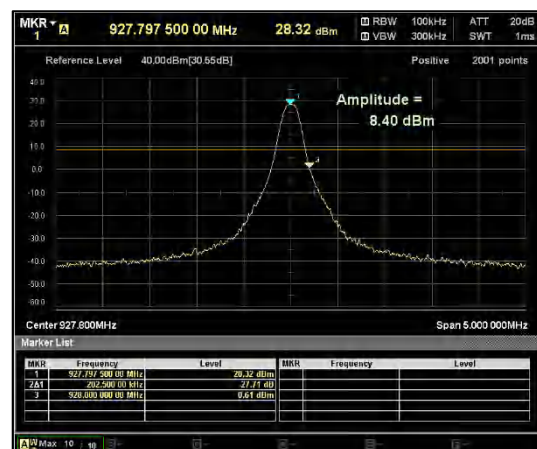


Channel frequency: 927.8MHz

**Band Edge**

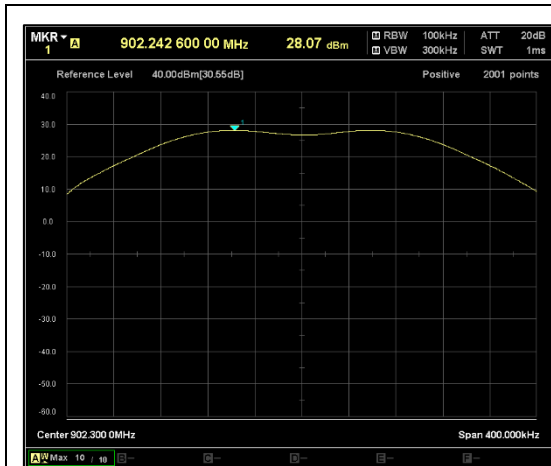


Channel frequency: 902.3MHz

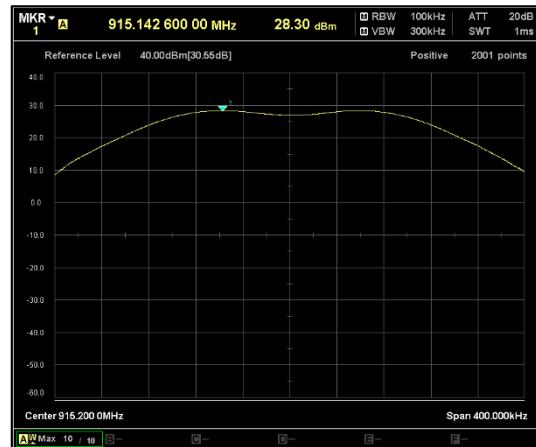


Channel frequency: 927.8MHz

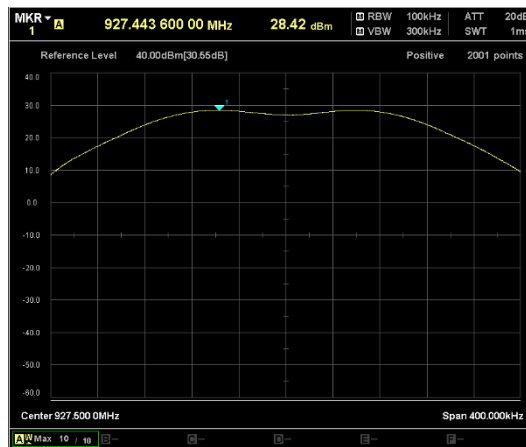
**Mode of Operation: 5**  
**Data rate: 115.2kbps**  
**Reference plot**



Channel frequency: 902.3MHz

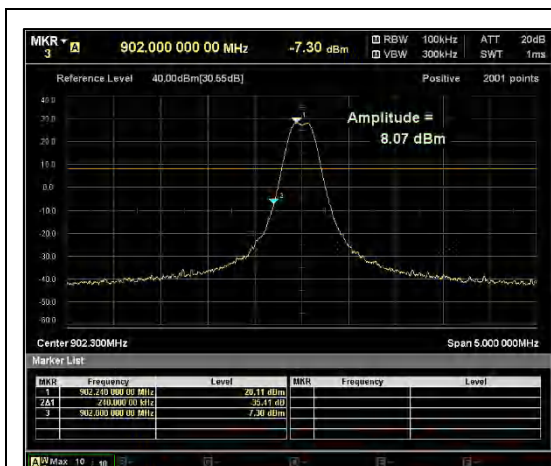


Channel frequency: 915.2MHz

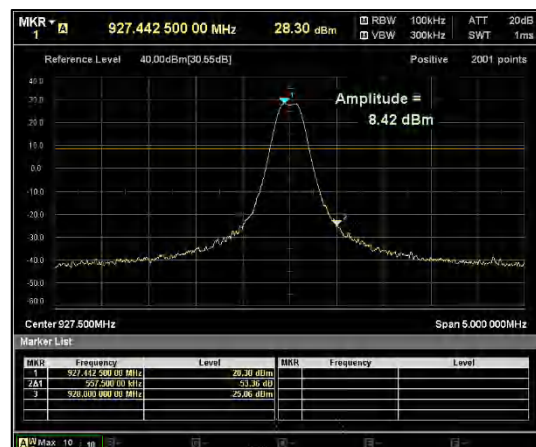


Channel frequency: 927.5MHz

**Band Edge**



Channel frequency: 902.3MHz

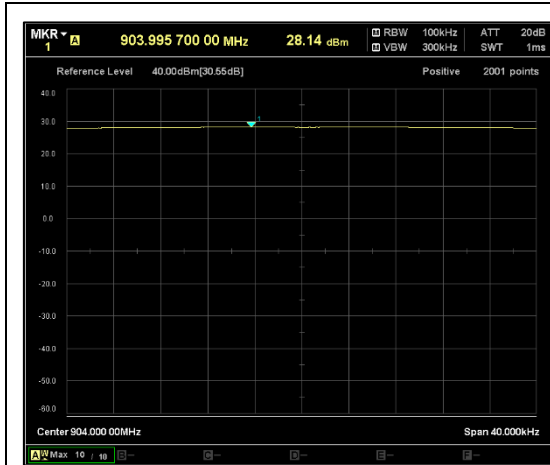


Channel frequency: 927.5MHz

Mode of Operation: 6

Data rate: 9.6kbps

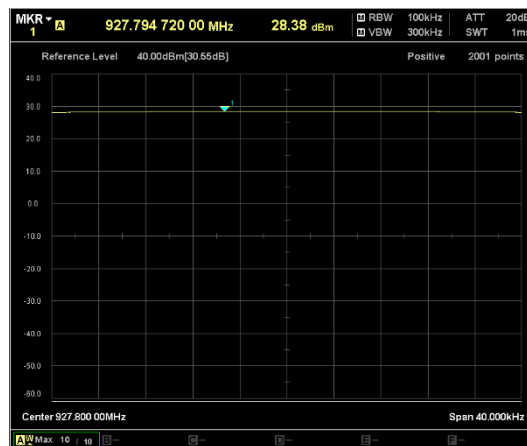
Reference plot



Channel frequency: 904MHz

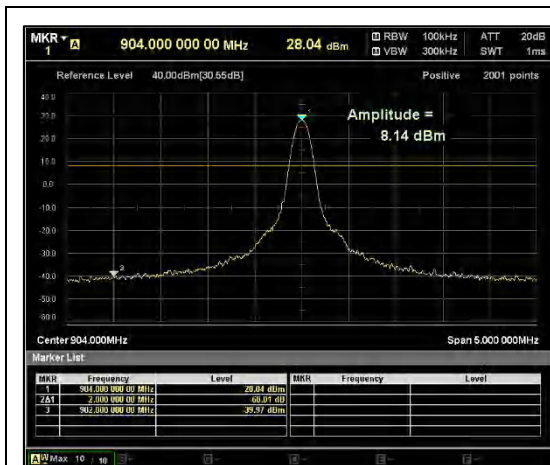


Channel frequency: 915.2MHz

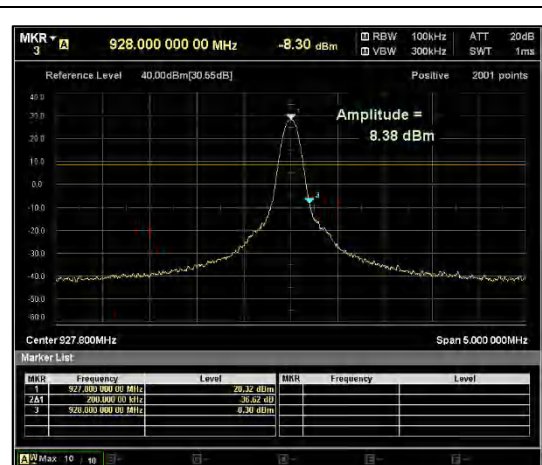


Channel frequency: 927.8MHz

**Band Edge**

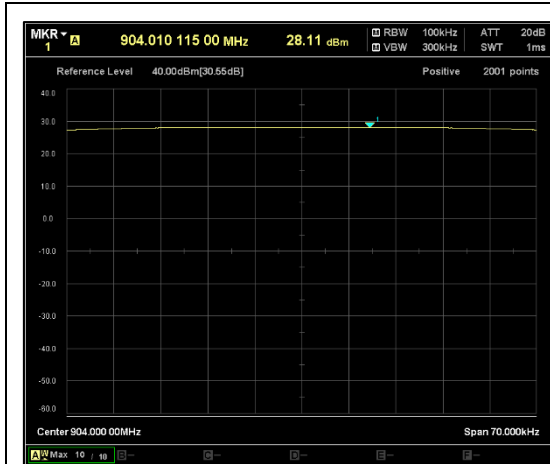


Channel frequency: 904MHz

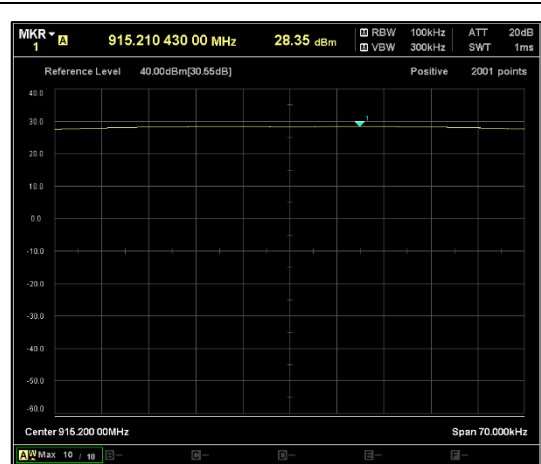


Channel frequency: 927.8MHz

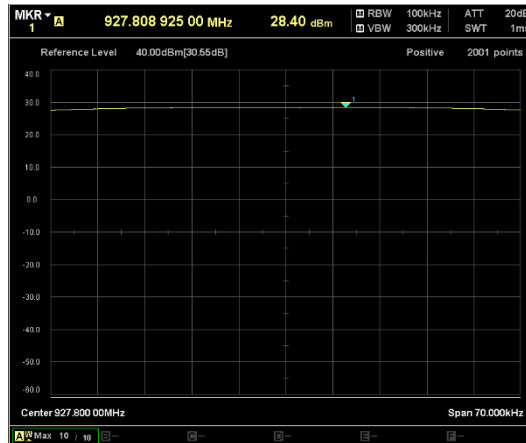
Data rate: 19.2kbps  
Reference plot



Channel frequency: 904MHz

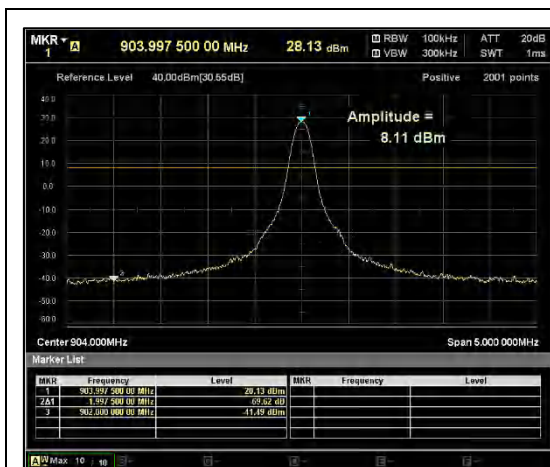


Channel frequency: 915.2MHz

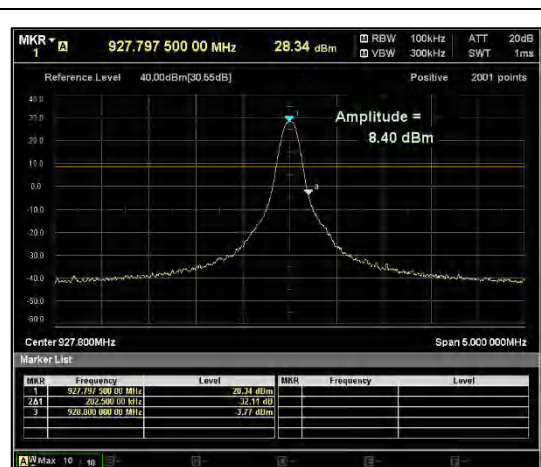


Channel frequency: 927.8MHz

**Band Edge**

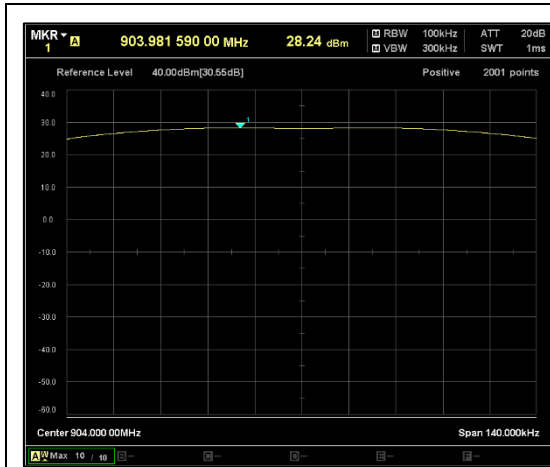


Channel frequency: 904MHz

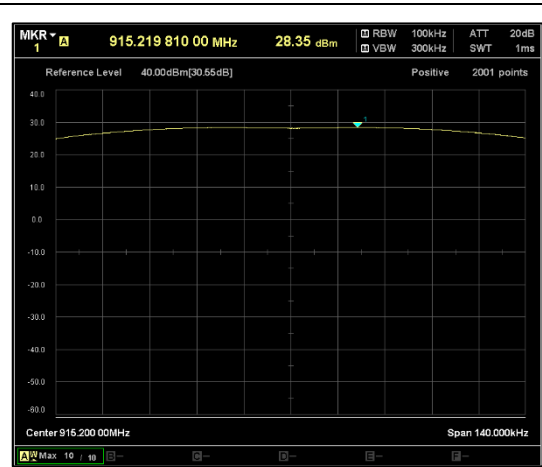


Channel frequency: 927.8MHz

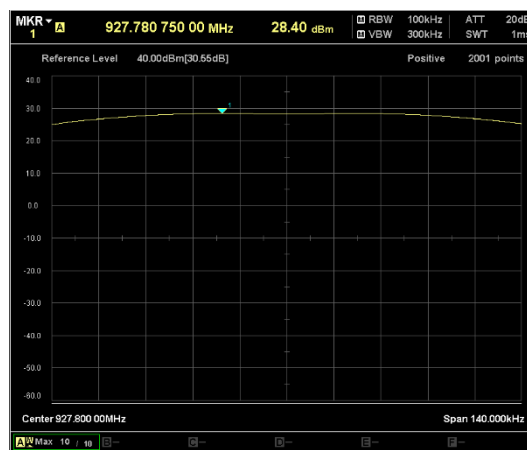
Data rate: 38.4kbps  
Reference plot



Channel frequency: 904MHz

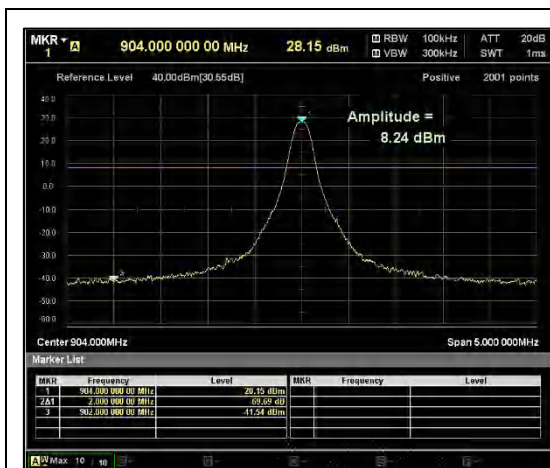


Channel frequency: 915.2MHz

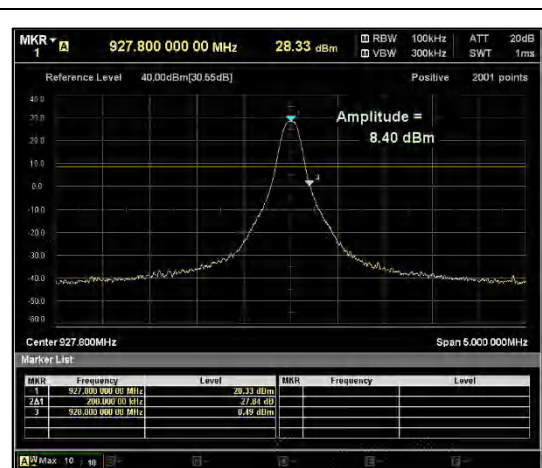


Channel frequency: 927.8MHz

**Band Edge**



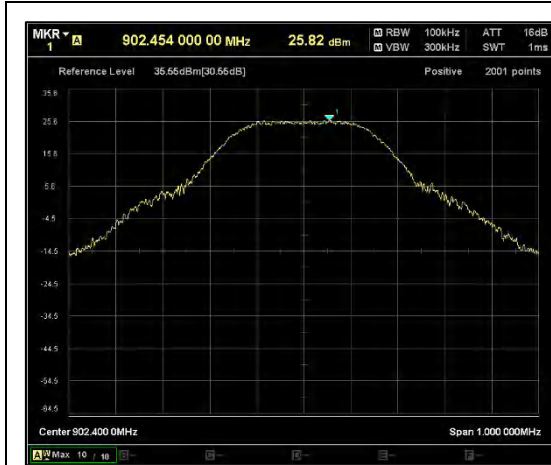
Channel frequency: 904MHz



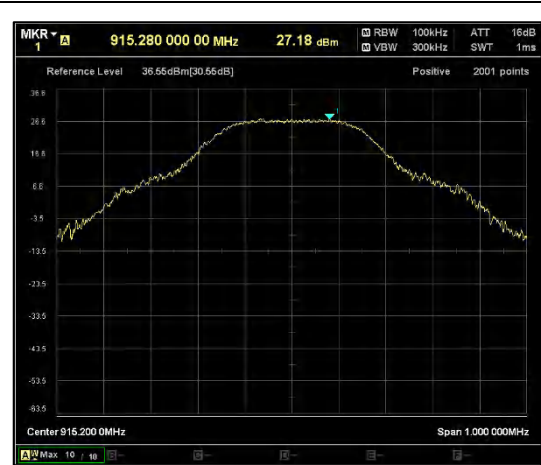
Channel frequency: 927.8MHz

Mode of Operation: 7

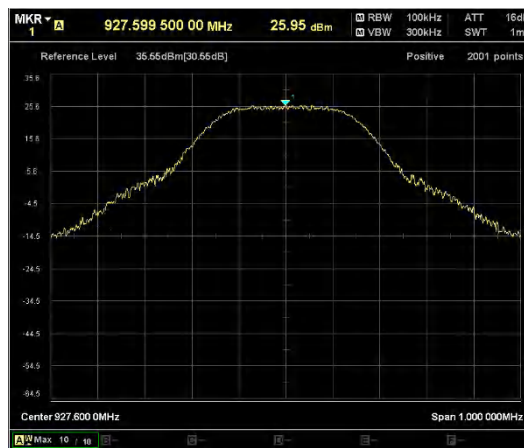
Data rate: MCS6  
Reference plot



Channel frequency: 902.4MHz

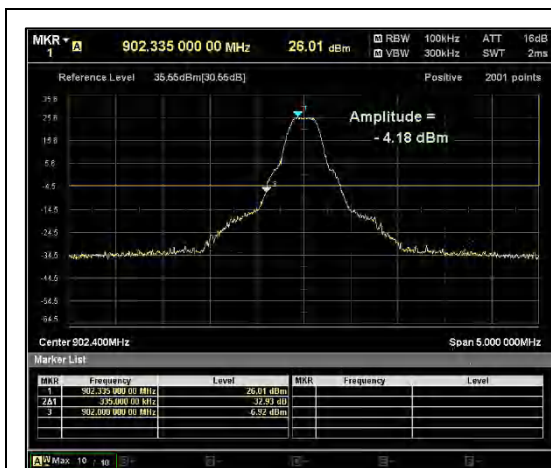


Channel frequency: 915.2MHz

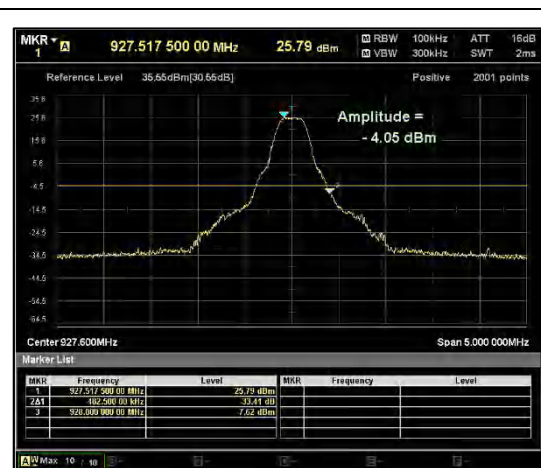


Channel frequency: 927.6MHz

**Band Edge**



Channel frequency: 902.4MHz



Channel frequency: 927.6MHz



**Prüfbericht - Nr.:**

**IN23VZM3 001**

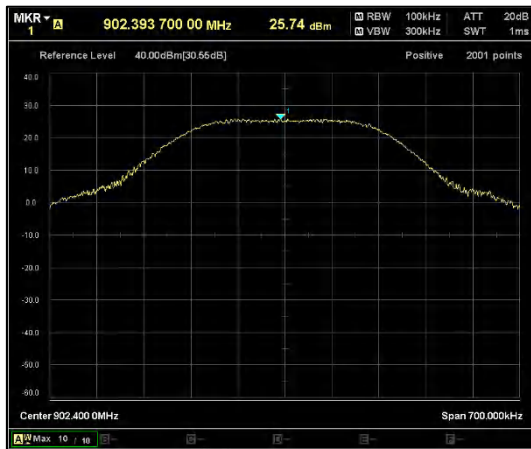
Seite 64 von 122  
Page 64 of 122

Test Report No.:

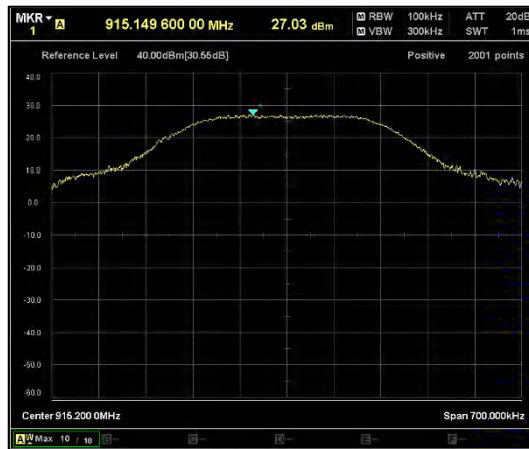
Mode of Operation: 8

Data rate: MCS2

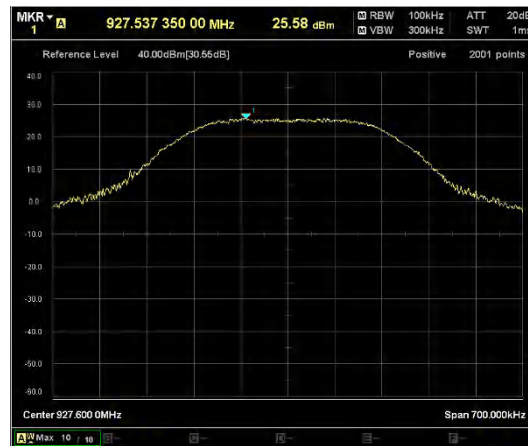
Reference plot



Channel frequency: 902.4MHz

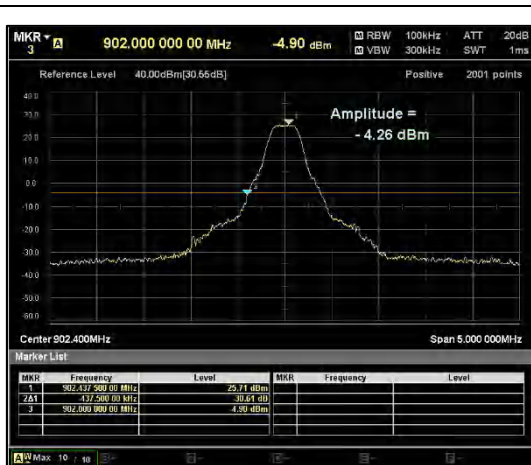


Channel frequency: 915.2MHz

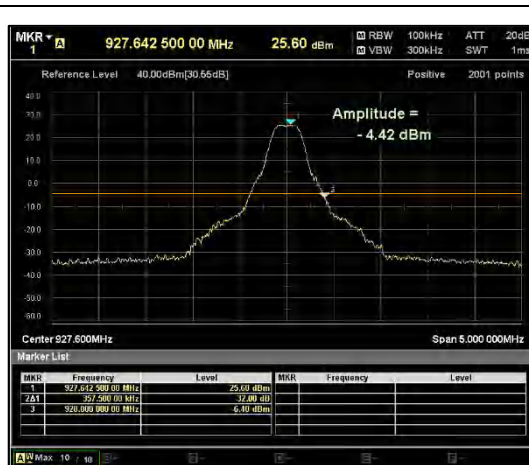


Channel frequency: 927.6MHz

**Band Edge**



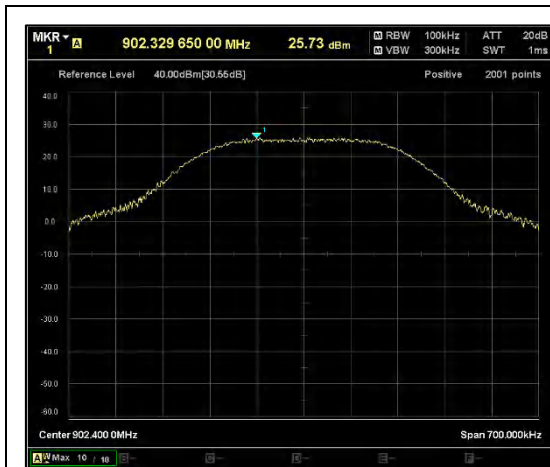
Channel frequency: 902.4MHz



Channel frequency: 927.6MHz



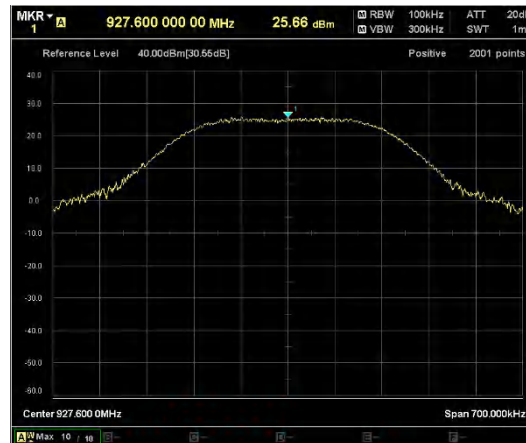
Data rate: MCS3  
Reference plot



Channel frequency: 902.4MHz

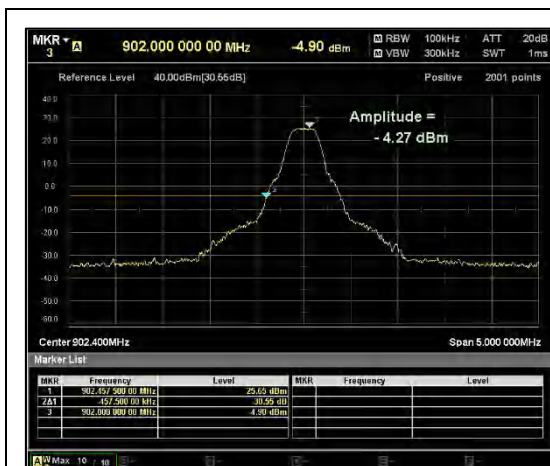


Channel frequency: 915.2MHz

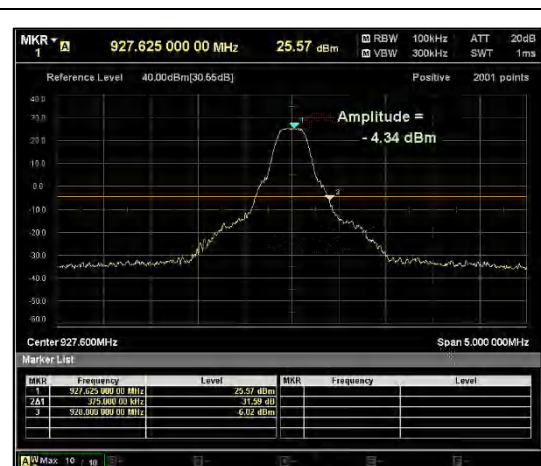


Channel frequency: 927.6MHz

Band Edge



Channel frequency: 902.4MHz



Channel frequency: 927.6MHz