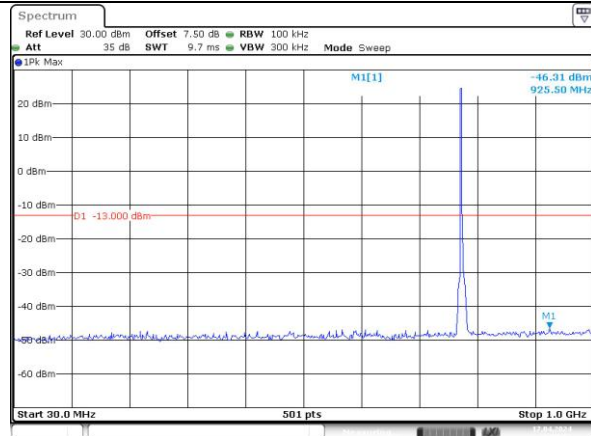


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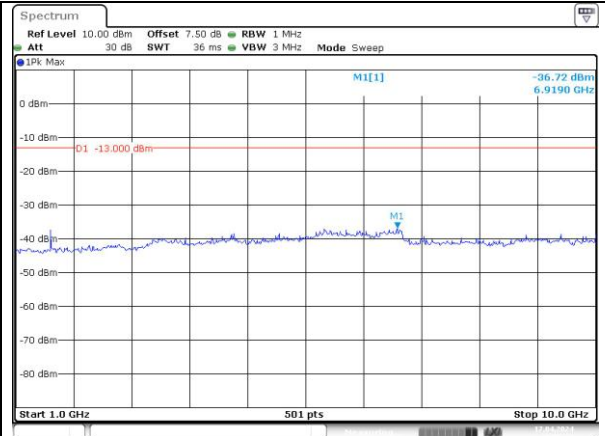
Spurious Emissions at Antenna Terminal

Channel

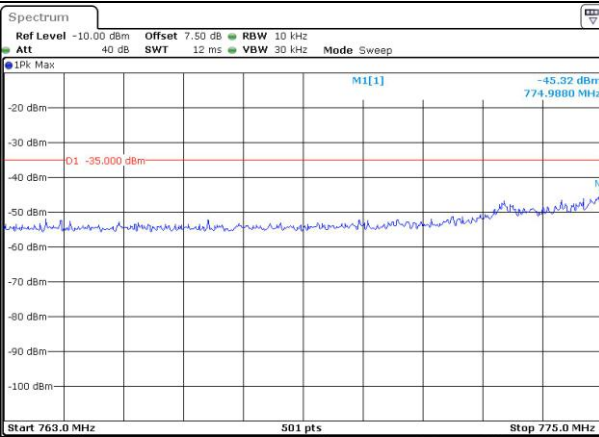
5MHz Bandwidth QPSK



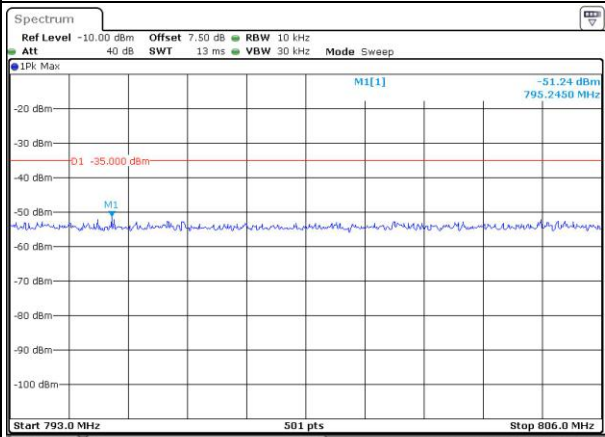
ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:08:01



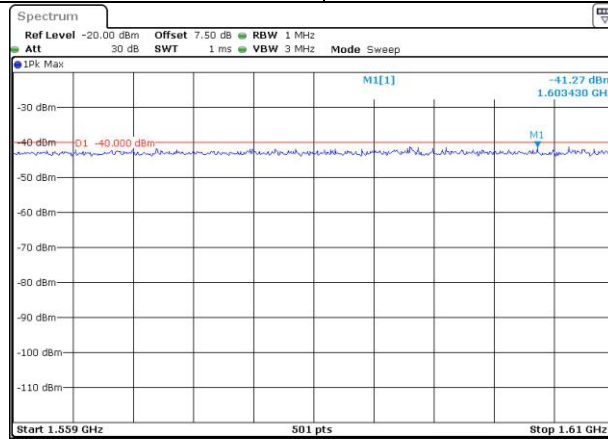
ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:08:21



ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:08:19



ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:09:18



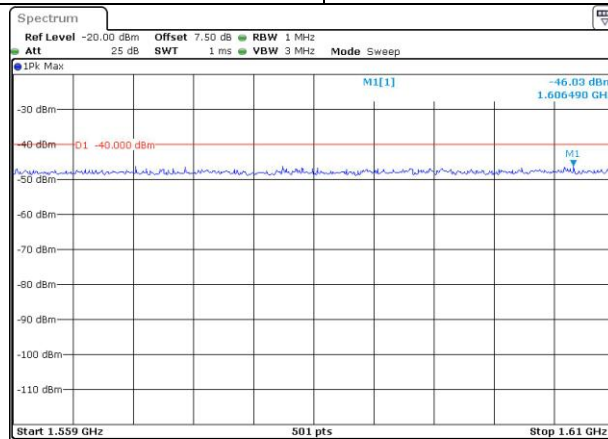
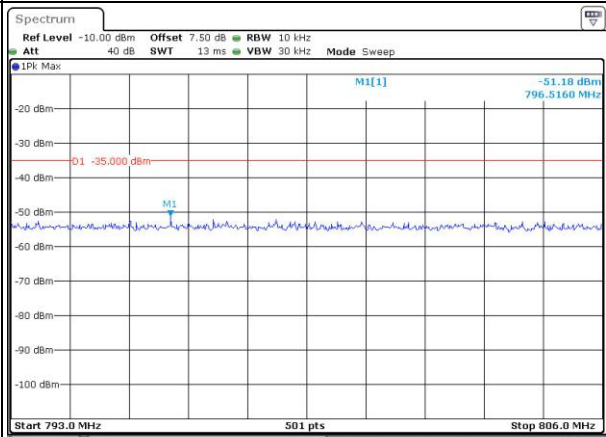
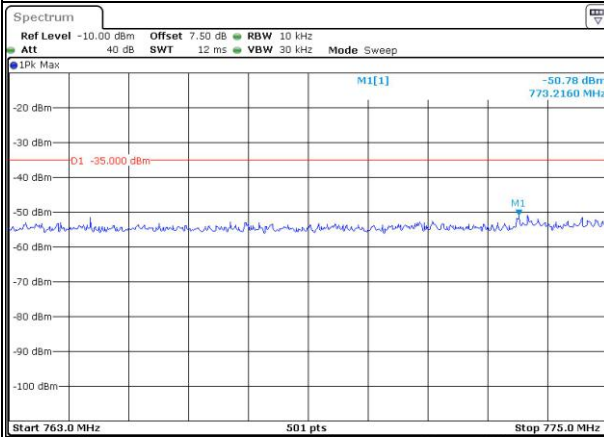
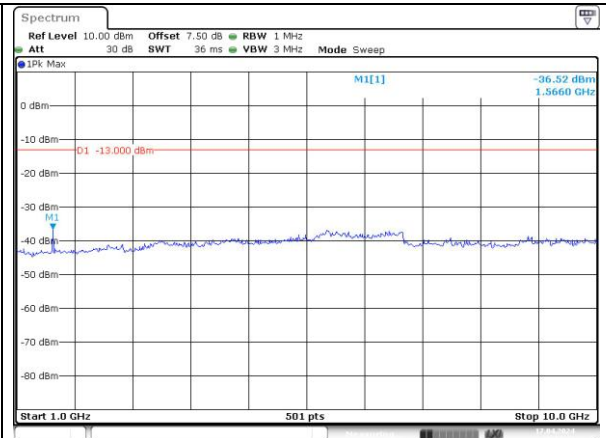
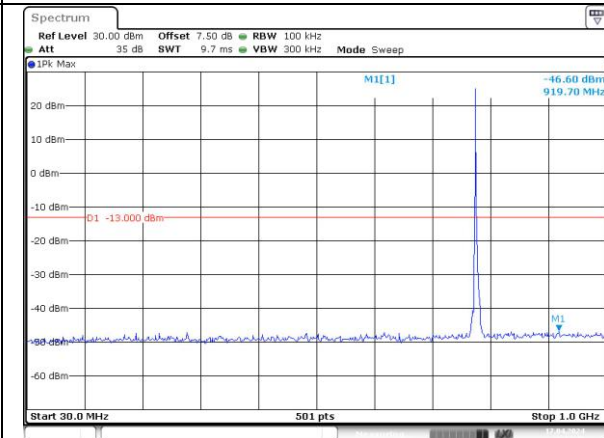
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Date: 17.APR.2024 22:09:40

Lowest

Spurious Emissions at Antenna Terminal

Channel

5MHz Bandwidth QPSK



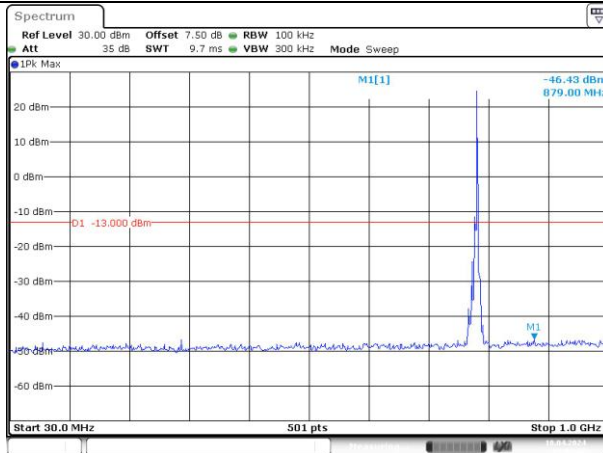
Highest

Spurious Emissions at Antenna Terminal

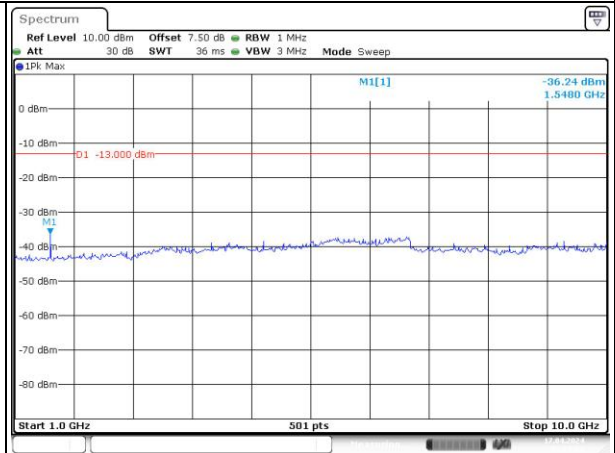
Channel

10MHz Bandwidth QPSK

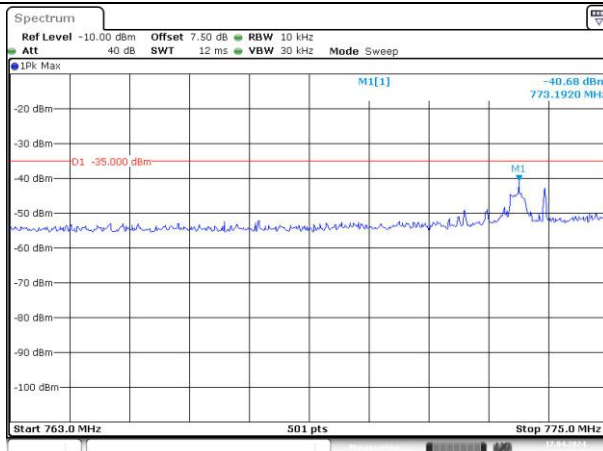
Middle



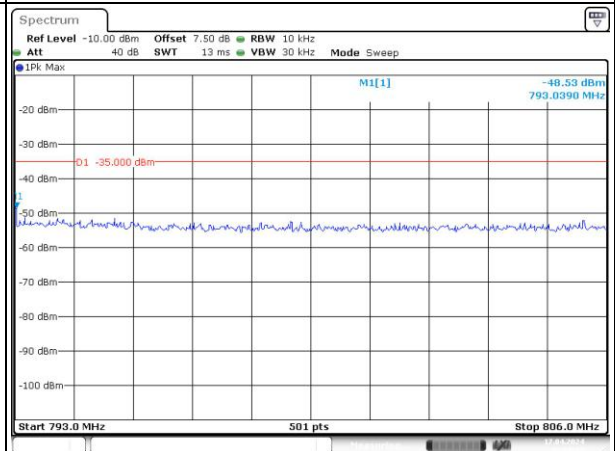
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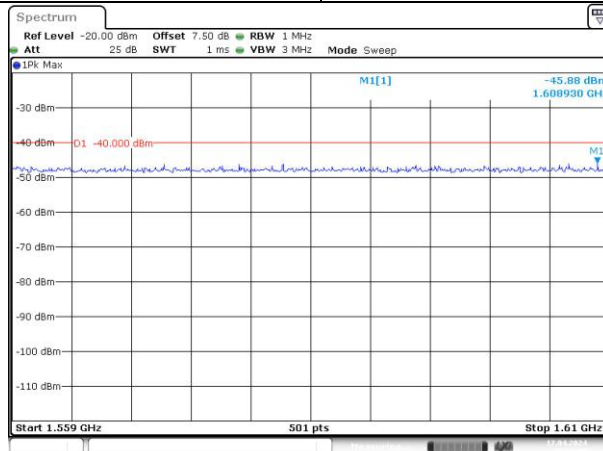
ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:21:24



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Date: 17.APR.2024 22:21:49

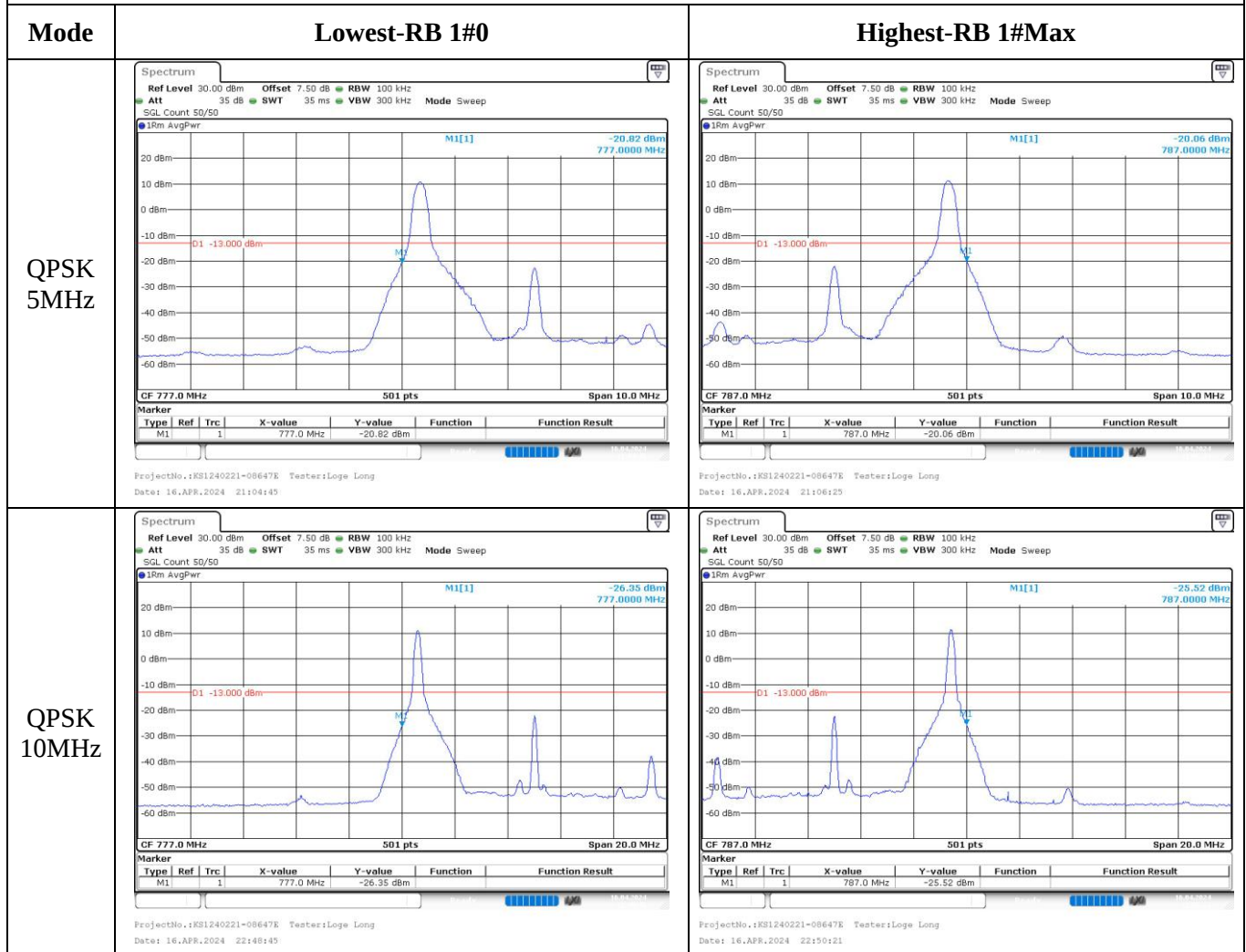


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:22:18

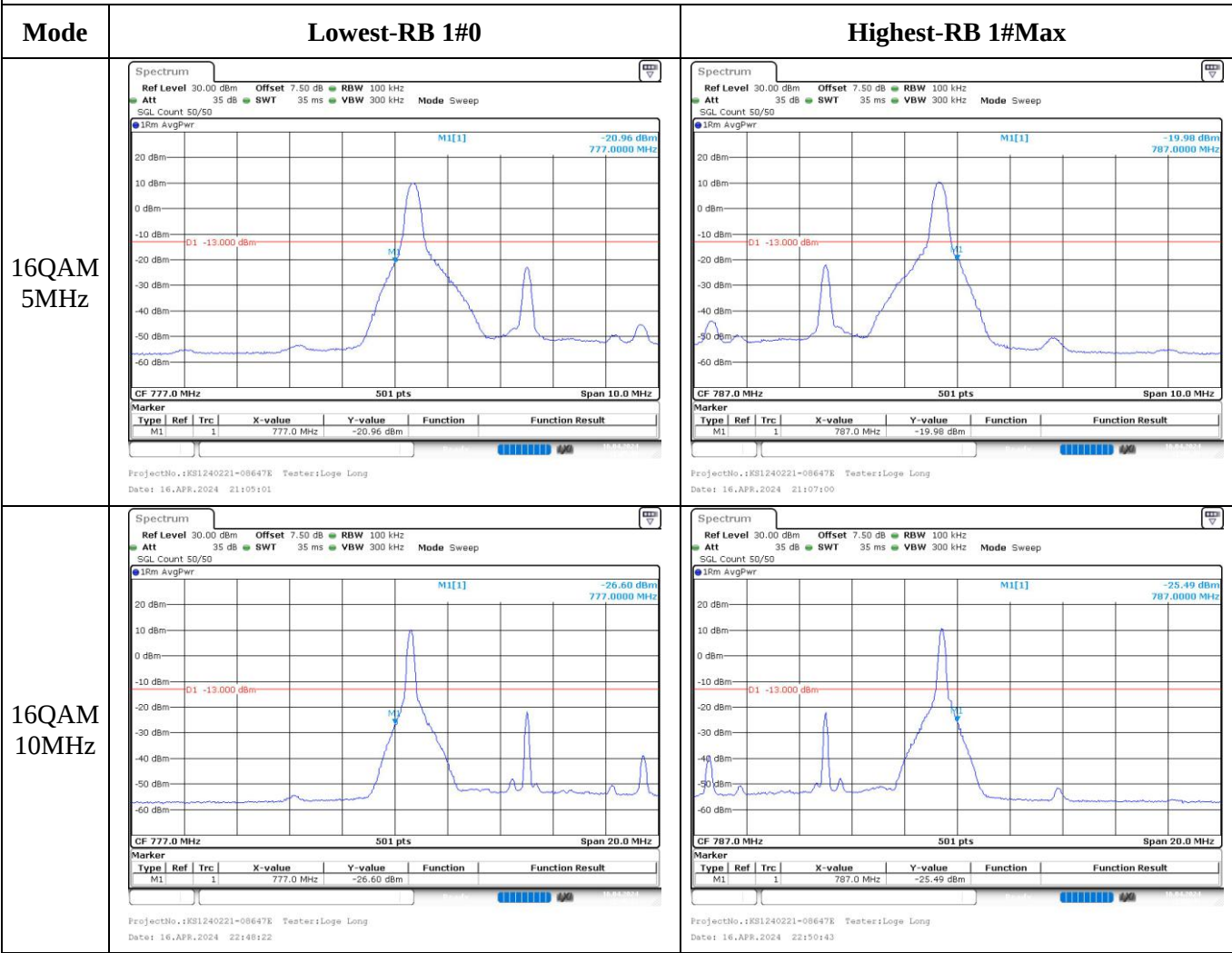


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:22:56

Out of band emission, Band Edge



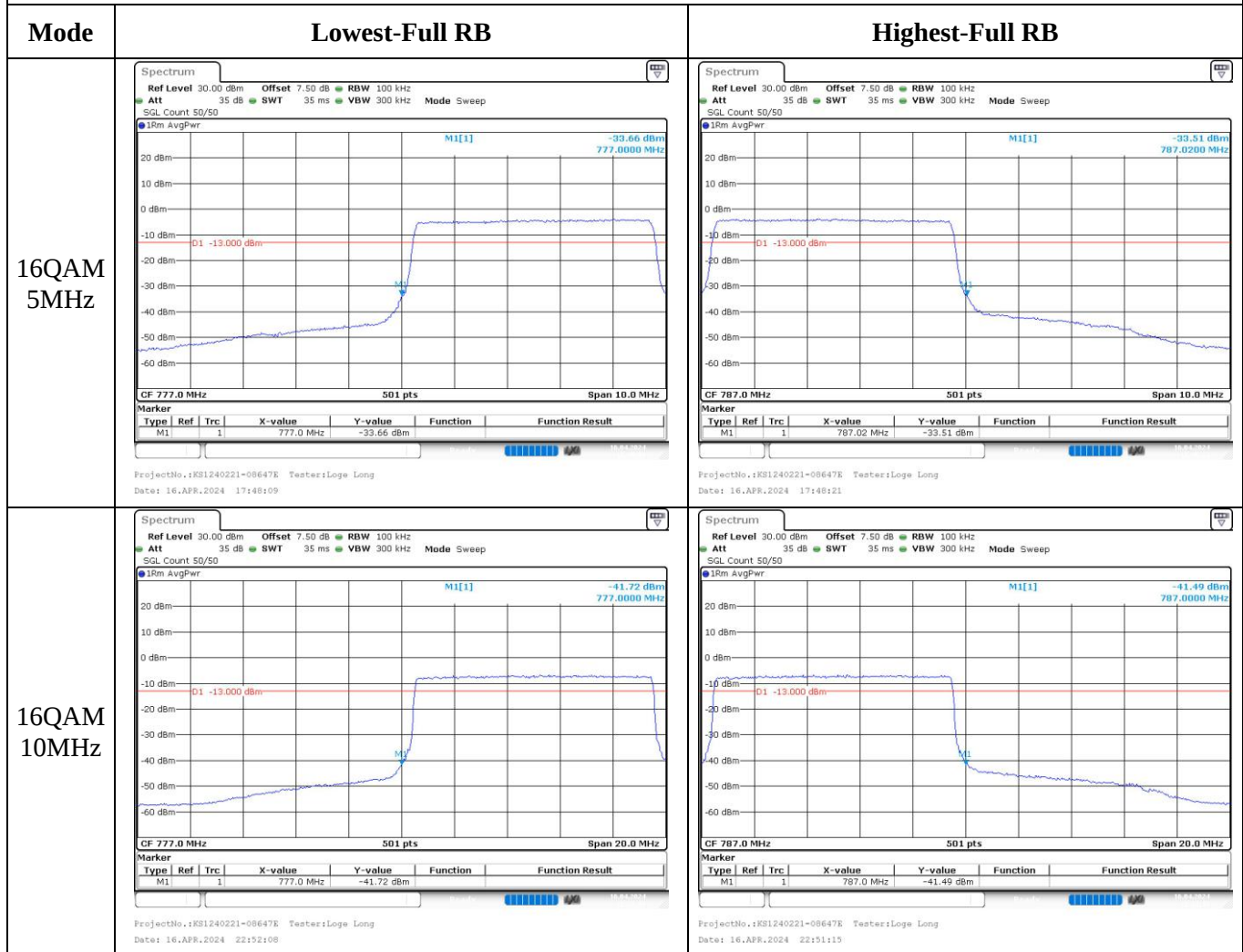
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest-Full RB		Highest-Full RB																															
QPSK 5MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 777.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>777.0 MHz</td><td>-33.40 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:48:03	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	777.0 MHz	-33.40 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 787.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>787.0 MHz</td><td>-32.14 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:48:15	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	787.0 MHz	-32.14 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																										
M1			1	777.0 MHz	-33.40 dBm																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																											
M1			1	787.0 MHz	-32.14 dBm																													
QPSK 10MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 777.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>777.0 MHz</td><td>-40.83 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 22:52:22	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	777.0 MHz	-40.83 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 787.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>787.0 MHz</td><td>-39.61 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 22:51:32	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	787.0 MHz	-39.61 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																										
M1			1	777.0 MHz	-40.83 dBm																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																											
M1			1	787.0 MHz	-39.61 dBm																													

Out of band emission, Band Edge



5.11 Antenna Port Test Data and Results for LTE Band 17

Serial Number:	2HV7-2	Test Date:	2024/4/16~2024/4/19
Test Site:	RF	Test Mode:	Transmitting
Tester:	Loge Long	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.4~28.1	Relative Humidity: (%)	46~61	ATM Pressure: (kPa)	100.1~100.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101461	2023/11/27	2024/11/26
Minl-Clrucits	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/2/25	2025/2/24
R&S	Wideband Radio Communication Tester	CMW500	110479	2023/10/18	2024/10/17
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2023/10/18	2024/10/17
All-sun	Clamp Meter	EM305A	8348897	2023/8/3	2024/8/2
Micro-Coax	Coaxial Cable	UFB205A	323308-024	2024/1/2	2025/1/1
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	706.5	710	713.5
10MHz	709	710	711

Test Data:**FCC §2.1046; § 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	23.48	23.52	23.56	18.69	34.77
	RB1#13	23.64	23.62	23.62		
	RB1#24	23.51	23.50	23.52		
	RB15#0	22.70	22.72	22.64		
	RB15#10	22.61	22.65	22.70		
	RB25#0	22.59	22.61	22.68		
5MHz 16QAM	RB1#0	22.58	22.42	22.86	17.93	34.77
	RB1#13	22.74	22.55	22.88		
	RB1#24	22.58	22.41	22.73		
	RB15#0	21.70	21.76	21.61		
	RB15#10	21.63	21.65	21.67		
	RB25#0	21.64	21.67	21.68		
10MHz QPSK	RB1#0	23.52	23.53	23.62	18.78	34.77
	RB1#25	23.73	23.72	23.73		
	RB1#49	23.49	23.56	23.60		
	RB25#0	22.70	22.75	22.77		
	RB25#25	22.58	22.60	22.71		
	RB50#0	22.65	22.65	22.76		
10MHz 16QAM	RB1#0	23.08	22.69	22.62	18.3	34.77
	RB1#25	23.25	22.87	22.80		
	RB1#49	23.00	22.68	22.54		
	RB25#0	21.79	21.76	21.83		
	RB25#25	21.62	21.61	21.79		
	RB50#0	21.68	21.69	21.78		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + G_T(dBd)G_T(dBd)=G_T(dBi)-2.15**Result:****Pass****Peak-to-average Ratio(PAR)**

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	3.77	3.94	4.17	13
	RB50#0	4.87	4.84	4.81	13
10MHz 16QAM	RB1#0	4.75	4.72	5.04	13
	RB50#0	5.83	5.83	5.74	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.531	4.511	4.551	5.160	5.180	5.240
5MHz 16QAM	4.531	4.551	4.531	5.160	5.200	5.220
10MHz QPSK	8.982	8.942	9.022	9.880	9.880	10.000
10MHz 16QAM	8.982	8.982	9.022	9.840	9.840	10.000
Note: The test plots please refer to the Plots of Occupied Bandwidth						

FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, §27.53:Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
----------------	--

FCC §2.1055, §27.54: Frequency Stability

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	704.486	704.00	715.487	716.00
	-20	3.8	704.465	704.00	715.484	716.00
	-10	3.8	704.471	704.00	715.490	716.00
	0	3.8	704.462	704.00	715.487	716.00
	10	3.8	704.483	704.00	715.505	716.00
	20	3.8	704.489	704.00	715.511	716.00
	30	3.8	704.492	704.00	715.526	716.00
	40	3.8	704.498	704.00	715.517	716.00
	50	3.8	704.507	704.00	715.520	716.00
Frequency Stability vs. Voltage	20	3.4	704.516	704.00	715.517	716.00
	20	4.35	704.492	704.00	715.532	716.00
Result:					Pass	

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	704.474	704.00	715.484	716.00
	-20	3.8	704.471	704.00	715.484	716.00
	-10	3.8	704.465	704.00	715.502	716.00
	0	3.8	704.483	704.00	715.505	716.00
	10	3.8	704.477	704.00	715.484	716.00
	20	3.8	704.489	704.00	715.511	716.00
	30	3.8	704.492	704.00	715.517	716.00
	40	3.8	704.510	704.00	715.535	716.00
	50	3.8	704.504	704.00	715.532	716.00
Frequency Stability vs. Voltage	20	3.4	704.495	704.00	715.514	716.00
	20	4.35	704.510	704.00	715.517	716.00
					Result:	Pass

Test Plots:

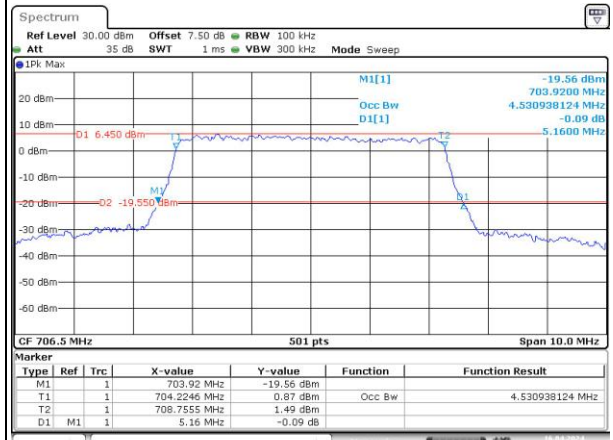
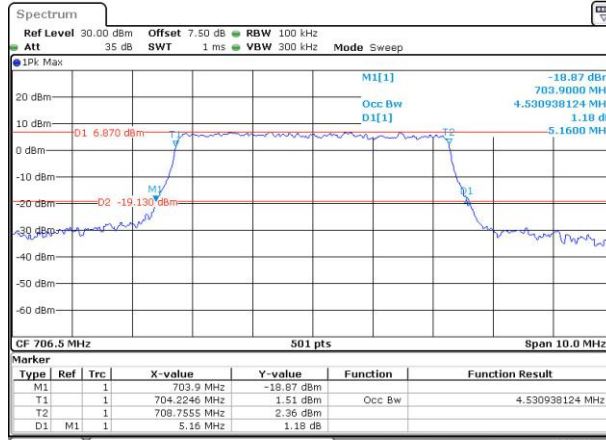
Occupied Bandwidth

Channel

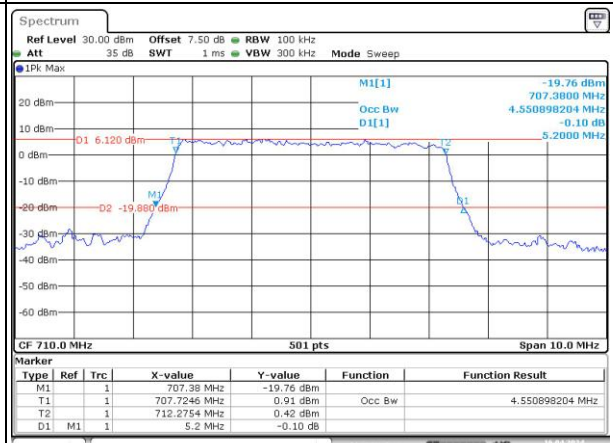
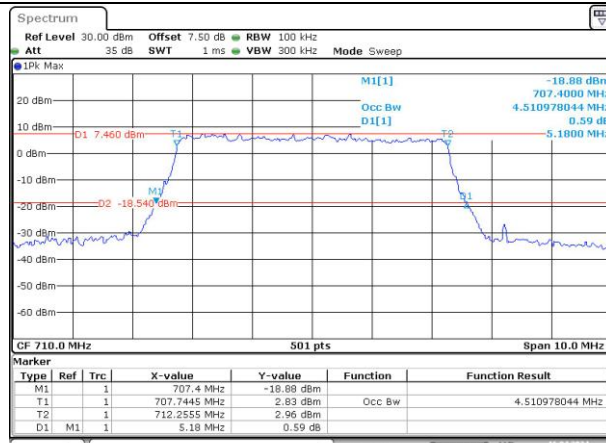
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

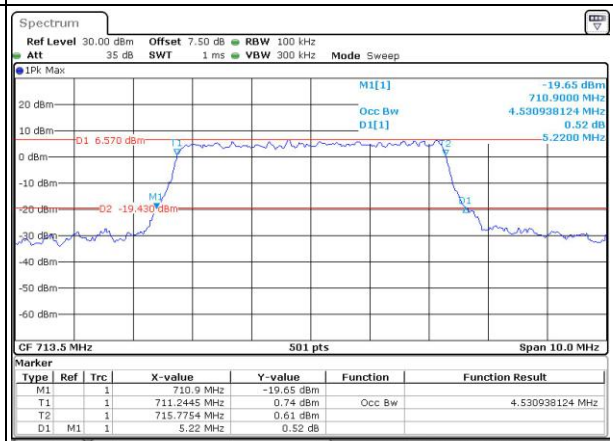
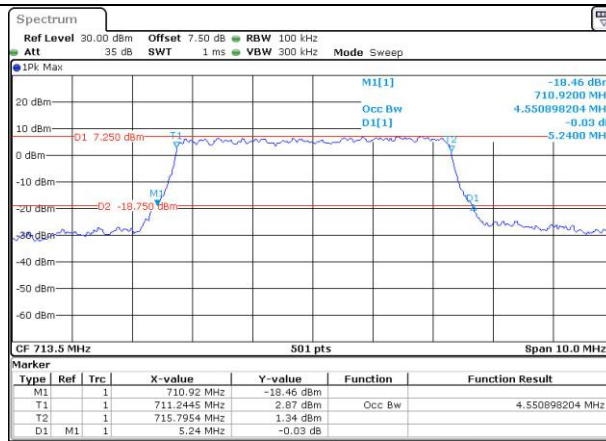
Lowest



Middle



Highest



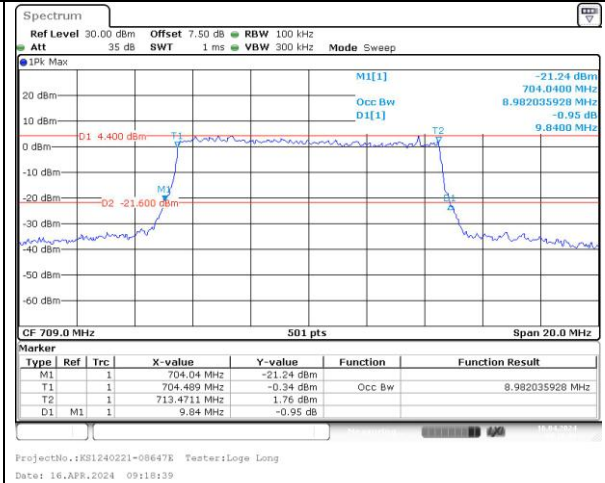
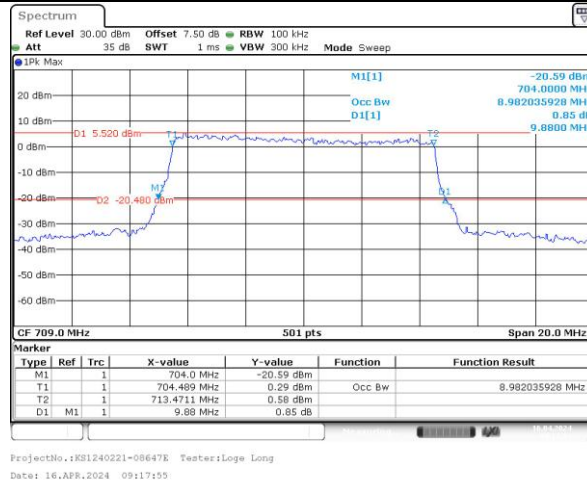
Occupied Bandwidth

Channel

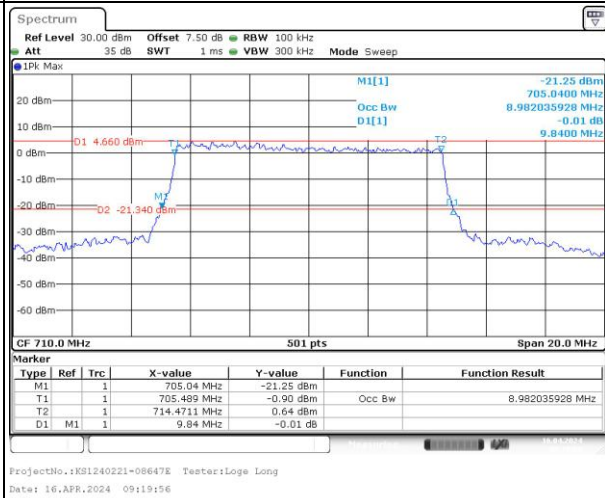
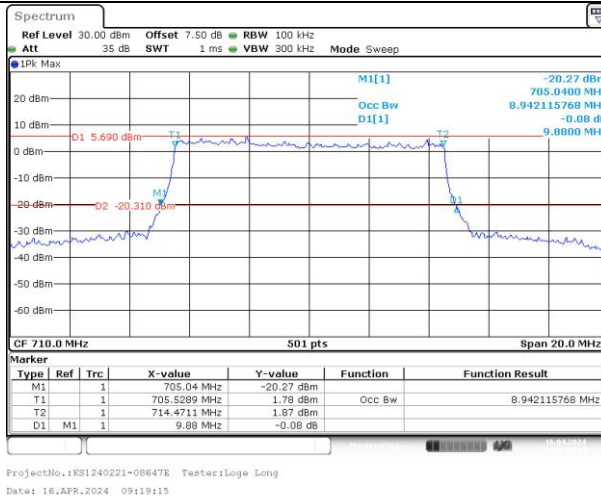
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

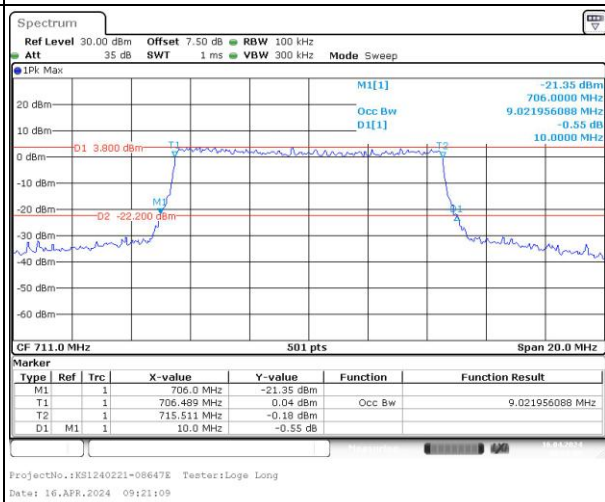
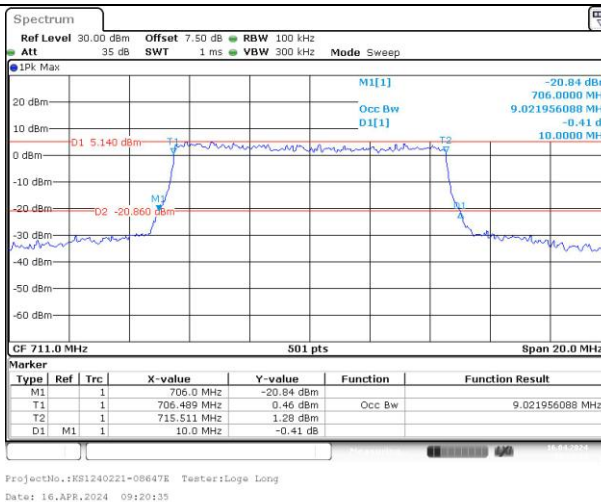
Lowest



Middle

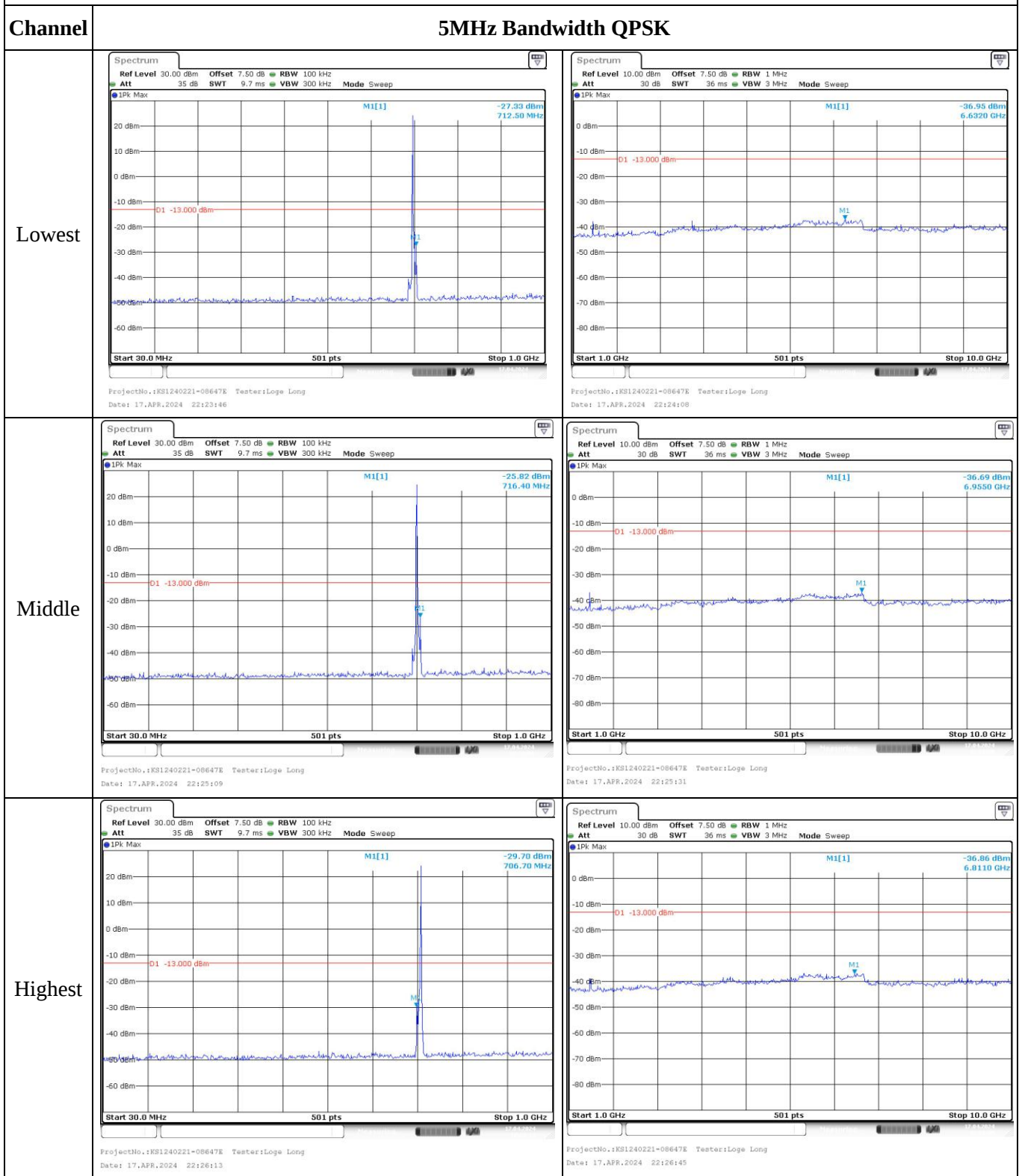


Highest



1RB:

Spurious Emissions at Antenna Terminal

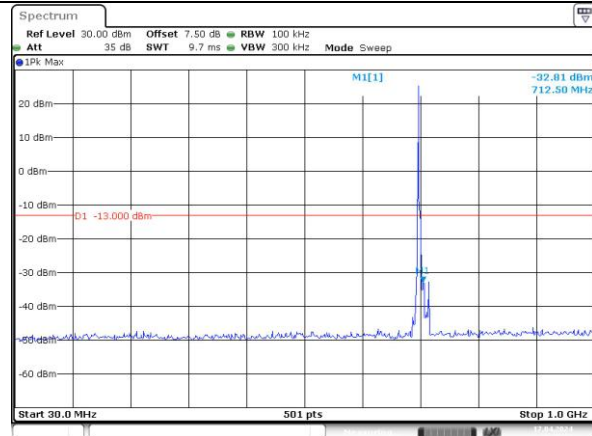


Spurious Emissions at Antenna Terminal

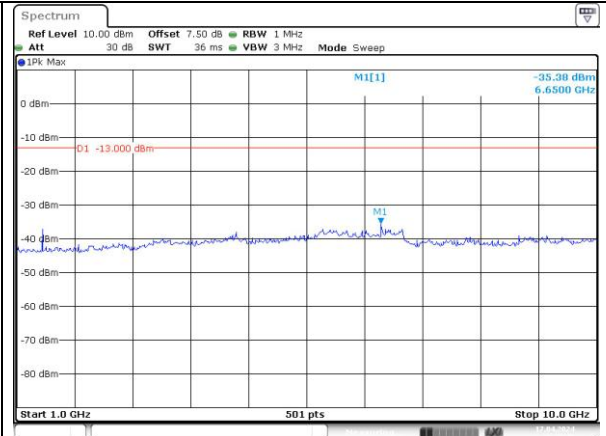
Channel

10MHz Bandwidth QPSK

Lowest

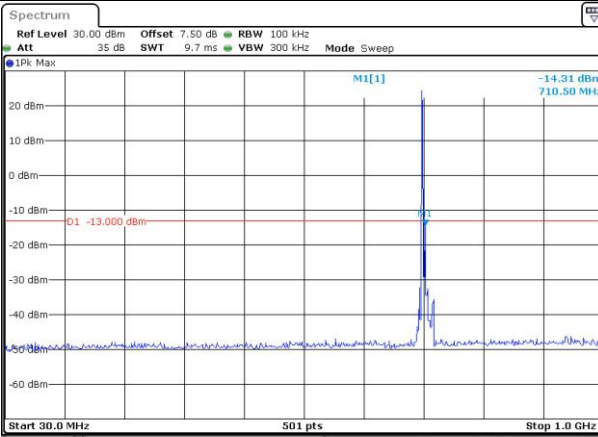


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Date: 17.APR.2024 22:28:22

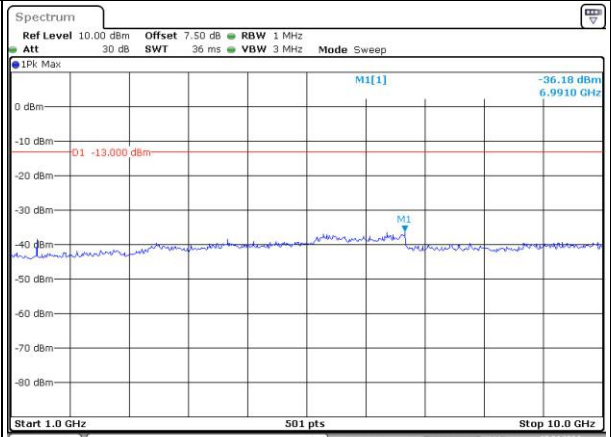


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:28:41

Middle

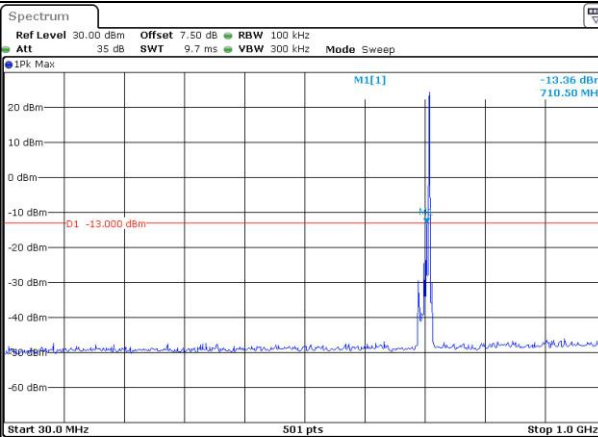


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Date: 17.APR.2024 22:34:19

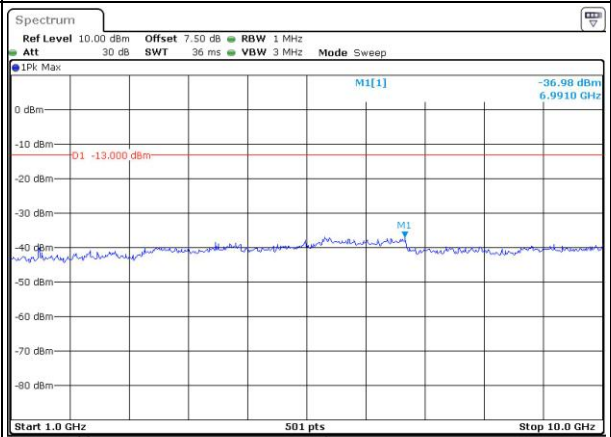


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:34:44

Highest

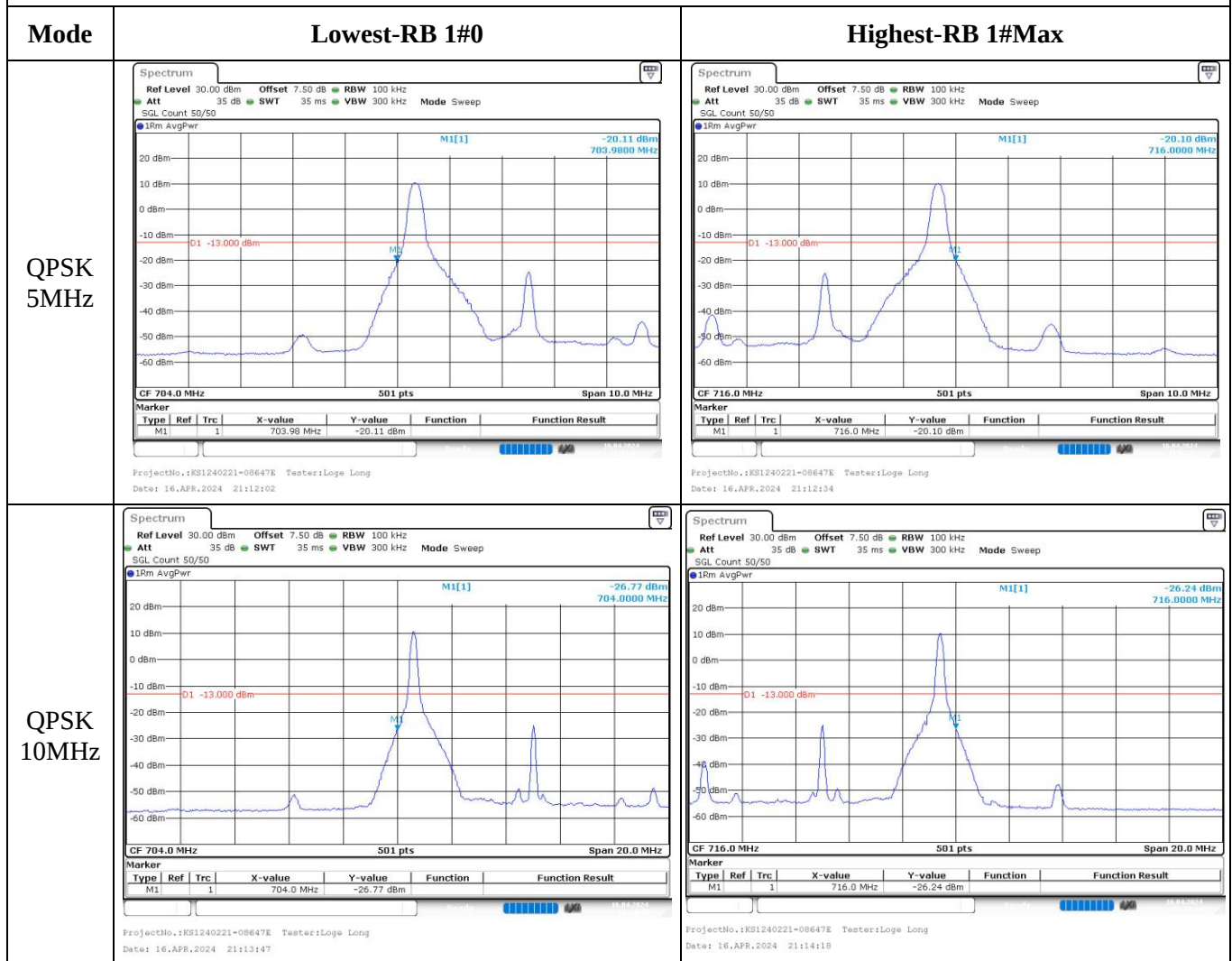


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:35:30



ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 22:35:56

Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest-RB 1#0		Highest-RB 1#Max																																	
16QAM 5MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 704.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>704.0 MHz</td><td>-21.43 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 21:12:17		Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	704.0 MHz	-21.43 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 716.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>716.0 MHz</td><td>-20.67 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 21:12:48		Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	716.0 MHz	-20.67 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																												
M1			1	704.0 MHz	-21.43 dBm																															
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																													
M1			1	716.0 MHz	-20.67 dBm																															
16QAM 10MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 704.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>704.0 MHz</td><td>-27.72 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 21:14:04		Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	704.0 MHz	-27.72 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 716.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>716.0 MHz</td><td>-26.04 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 21:14:31		Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	716.0 MHz	-26.04 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																												
M1			1	704.0 MHz	-27.72 dBm																															
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																													
M1			1	716.0 MHz	-26.04 dBm																															

Out of band emission, Band Edge

Mode	Lowest-Full RB		Highest-Full RB																															
QPSK 5MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 704.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>704.0 MHz</td><td>-33.54 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:57:130	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	704.0 MHz	-33.54 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 716.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>716.0 MHz</td><td>-31.04 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:57:142	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	716.0 MHz	-31.04 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																										
M1			1	704.0 MHz	-33.54 dBm																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																											
M1			1	716.0 MHz	-31.04 dBm																													
QPSK 10MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 704.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>704.0 MHz</td><td>-39.13 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:58:129	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	704.0 MHz	-39.13 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 716.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>716.0 MHz</td><td>-38.44 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:58:143	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	716.0 MHz	-38.44 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																										
M1			1	704.0 MHz	-39.13 dBm																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																											
M1			1	716.0 MHz	-38.44 dBm																													

Out of band emission, Band Edge

Mode	Lowest-Full RB		Highest-Full RB																															
16QAM 5MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 704.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>703.96 MHz</td><td>-36.78 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:57:136	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	703.96 MHz	-36.78 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 716.0 MHz 501 pts Span 10.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>716.0 MHz</td><td>-33.09 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:57:48	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	716.0 MHz	-33.09 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																										
M1			1	703.96 MHz	-36.78 dBm																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																											
M1			1	716.0 MHz	-33.09 dBm																													
16QAM 10MHz	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 704.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>704.0 MHz</td><td>-40.92 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:58:136	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	704.0 MHz	-40.92 dBm			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 15m AvgPwr CF 716.0 MHz 501 pts Span 20.0 MHz <table><tr><th>Marker</th><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td></td><td></td><td>1</td><td>716.0 MHz</td><td>-40.33 dBm</td><td></td><td></td></tr></table> ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 16.APR.2024 17:58:49	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1			1	716.0 MHz	-40.33 dBm		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																										
M1			1	704.0 MHz	-40.92 dBm																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																											
M1			1	716.0 MHz	-40.33 dBm																													

5.12 Antenna Port Test Data and Results for LTE Band 25

Serial Number:	2HV7-2	Test Date:	2024/4/16~2024/4/19
Test Site:	RF	Test Mode:	Transmitting
Tester:	Loge Long	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.4~28.1	Relative Humidity: (%)	46~61	ATM Pressure: (kPa)	100.1~100.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101461	2023/11/27	2024/11/26
Minl-Clrucits	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/2/25	2025/2/24
R&S	Wideband Radio Communication Tester	CMW500	110479	2023/10/18	2024/10/17
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2023/10/18	2024/10/17
All-sun	Clamp Meter	EM305A	8348897	2023/8/3	2024/8/2
Micro-Coax	Coaxial Cable	UFB205A	323308-024	2024/1/2	2025/1/1
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1850.7	1882.5	1914.3
3MHz	1851.5	1882.5	1913.5
5MHz	1852.5	1882.5	1912.5
10MHz	1855	1882.5	1910
15MHz	1857.5	1882.5	1907.5
20MHz	1860	1882.5	1905

Test Data:**FCC §2.1046; § 24.232****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.79	21.56	21.46	22.5	33
	RB1#3	21.97	21.69	21.61		
	RB1#5	21.78	21.51	21.43		
	RB3#0	21.87	21.61	21.46		
	RB3#3	21.91	21.64	21.47		
	RB6#0	20.86	20.56	20.54		
1.4MHz 16QAM	RB1#0	20.91	20.50	20.44	21.7	33
	RB1#3	21.17	20.64	20.59		
	RB1#5	20.88	20.55	20.41		
	RB3#0	20.80	20.68	20.57		
	RB3#3	20.85	20.72	20.62		
	RB6#0	19.90	19.54	19.52		
3MHz QPSK	RB1#0	21.88	21.63	21.54	22.41	33
	RB1#8	21.78	21.58	21.49		
	RB1#14	21.83	21.55	21.46		
	RB6#0	20.78	20.60	20.57		
	RB6#9	20.76	20.57	20.44		
	RB15#0	20.80	20.60	20.47		
3MHz 16QAM	RB1#0	20.86	21.21	20.58	21.74	33
	RB1#8	20.81	21.18	20.56		
	RB1#14	20.77	21.13	20.60		
	RB6#0	19.79	19.64	19.51		
	RB6#9	19.76	19.61	19.43		
	RB15#0	19.89	19.62	19.42		
5MHz QPSK	RB1#0	21.74	21.46	21.40	22.32	33
	RB1#13	21.79	21.57	21.50		
	RB1#24	21.68	21.39	21.37		
	RB15#0	20.69	20.56	20.56		
	RB15#10	20.81	20.62	20.24		
	RB25#0	20.76	20.57	20.30		
5MHz 16QAM	RB1#0	21.02	20.59	20.28	21.63	33
	RB1#13	21.10	20.64	20.33		
	RB1#24	20.92	20.53	20.27		
	RB15#0	19.67	19.59	19.50		
	RB15#10	19.77	19.60	19.18		
	RB25#0	19.72	19.56	19.34		
10MHz QPSK	RB1#0	21.24	21.59	21.55	22.35	33
	RB1#25	21.82	21.76	21.68		
	RB1#49	21.62	21.53	21.52		

	RB25#0	20.59	20.66	20.41		
	RB25#25	20.82	20.75	20.30		
	RB50#0	20.77	20.70	20.37		
10MHz 16QAM	RB1#0	20.84	21.25	20.69	21.88	33
	RB1#25	20.90	21.35	20.81		
	RB1#49	20.72	21.12	20.61		
	RB25#0	19.82	19.72	19.40		
	RB25#25	19.92	19.80	19.27		
	RB50#0	19.86	19.68	19.37		
15MHz QPSK	RB1#0	21.76	21.57	21.51	22.29	33
	RB1#38	21.50	21.63	21.57		
	RB1#74	21.49	21.44	21.46		
	RB36#0	20.74	20.66	20.66		
	RB36#39	20.78	20.74	20.52		
	RB75#0	20.79	20.64	20.58		
15MHz 16QAM	RB1#0	21.35	20.72	20.88	21.88	33
	RB1#38	21.26	20.77	21.00		
	RB1#74	21.04	20.57	20.70		
	RB36#0	19.76	19.67	19.62		
	RB36#39	19.75	19.70	19.44		
	RB75#0	19.75	19.69	19.56		
20MHz QPSK	RB1#0	21.64	21.41	21.24	22.43	33
	RB1#50	21.90	21.72	21.64		
	RB1#99	21.42	21.09	21.23		
	RB50#0	20.61	20.31	20.88		
	RB50#50	20.48	20.47	20.69		
	RB100#0	20.58	20.55	20.78		
20MHz 16QAM	RB1#0	20.94	20.48	20.69	21.63	33
	RB1#50	21.09	20.89	21.10		
	RB1#99	20.65	20.38	20.68		
	RB50#0	19.56	19.64	19.91		
	RB50#50	19.46	19.77	19.64		
	RB100#0	19.54	19.70	19.77		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)

Result:

Pass

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	5.42	4.70	3.91	13
	RB100#0	3.77	4.38	4.38	13
20MHz 16QAM	RB1#0	6.09	5.74	4.52	13
	RB100#0	5.45	5.80	5.80	13
				Result:	Pass

FCC §2.1049, §24.238: Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.102	1.108	1.102	1.332	1.302	1.338
1.4MHz 16QAM	1.096	1.096	1.102	1.302	1.296	1.320
3MHz QPSK	2.683	2.695	2.683	2.880	2.880	2.892
3MHz 16QAM	2.671	2.683	2.671	2.892	2.880	2.868
5MHz QPSK	4.531	4.531	4.511	5.200	5.160	5.160
5MHz 16QAM	4.531	4.531	4.531	5.220	5.200	5.180
10MHz QPSK	8.982	8.982	8.942	9.880	9.920	9.640
10MHz 16QAM	8.982	8.982	8.942	9.920	9.800	9.800
15MHz QPSK	13.533	13.593	13.473	15.300	15.240	15.060
15MHz 16QAM	13.533	13.593	13.473	15.660	15.120	14.940
20MHz QPSK	17.964	17.964	17.964	19.840	19.760	19.680
20MHz 16QAM	17.964	18.044	18.044	19.520	19.840	19.920

Note: The test plots please refer to the Plots of Occupied Bandwidth

FCC §2.1051, §24.238 (a): Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, §24.238 (a): Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §24.235: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1851.043	1850.000	1914.007	1915.000
	-20	3.8	1851.031	1850.000	1914.010	1915.000
	-10	3.8	1851.046	1850.000	1914.001	1915.000
	0	3.8	1851.031	1850.000	1914.013	1915.000
	10	3.8	1851.049	1850.000	1914.004	1915.000
	20	3.8	1851.058	1850.000	1914.022	1915.000
	30	3.8	1851.082	1850.000	1914.049	1915.000
	40	3.8	1851.070	1850.000	1914.025	1915.000
	50	3.8	1851.070	1850.000	1914.043	1915.000
Frequency Stability vs. Voltage	20	3.4	1851.067	1850.000	1914.028	1915.000
	20	4.35	1851.067	1850.000	1914.040	1915.000
Result:					Pass	

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1851.037	1850.000	1914.004	1915.000
	-20	3.8	1851.031	1850.000	1914.010	1915.000
	-10	3.8	1851.052	1850.000	1914.001	1915.000
	0	3.8	1851.031	1850.000	1914.013	1915.000
	10	3.8	1851.055	1850.000	1914.004	1915.000
	20	3.8	1851.058	1850.000	1914.022	1915.000
	30	3.8	1851.067	1850.000	1914.034	1915.000
	40	3.8	1851.061	1850.000	1914.049	1915.000
	50	3.8	1851.073	1850.000	1914.034	1915.000
Frequency Stability vs. Voltage	20	3.4	1851.076	1850.000	1914.028	1915.000
	20	4.35	1851.064	1850.000	1914.034	1915.000
					Result:	Pass

Test Plots:

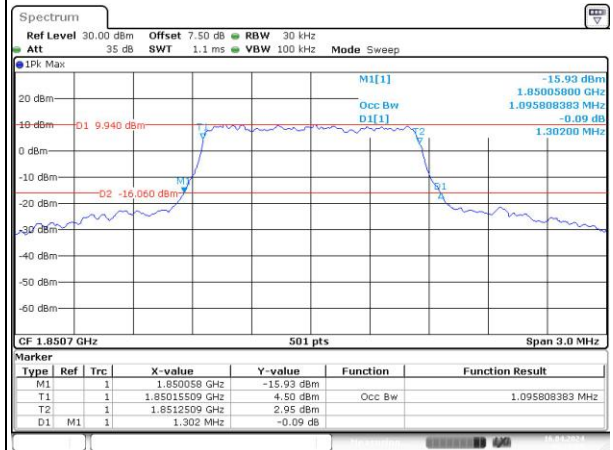
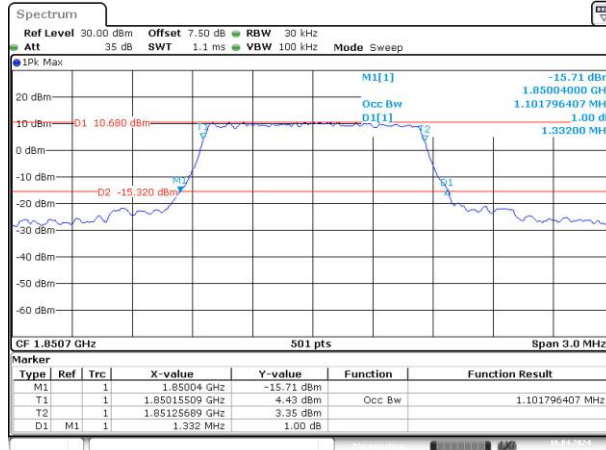
Occupied Bandwidth

Channel

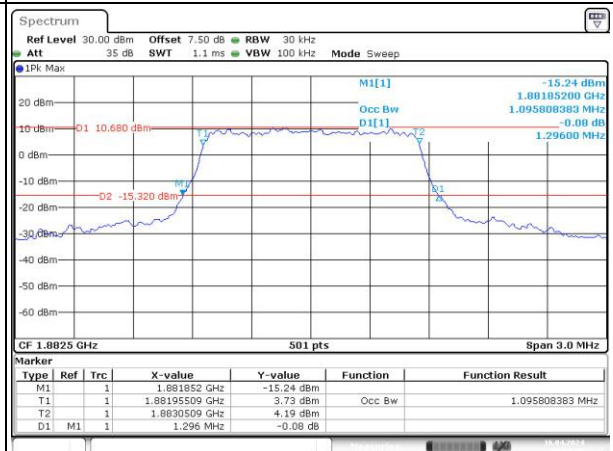
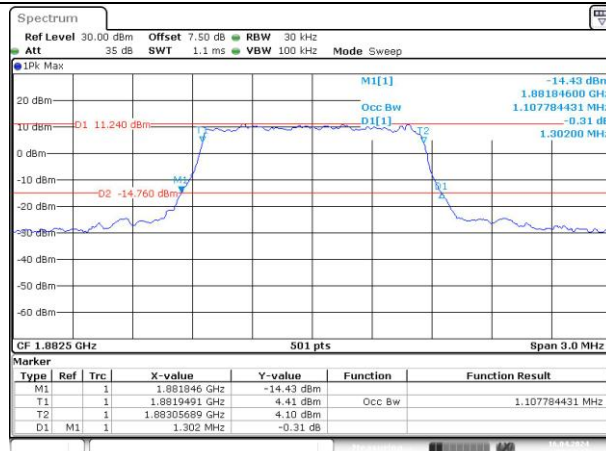
1.4MHz Bandwidth QPSK

1.4MHz Bandwidth 16QAM

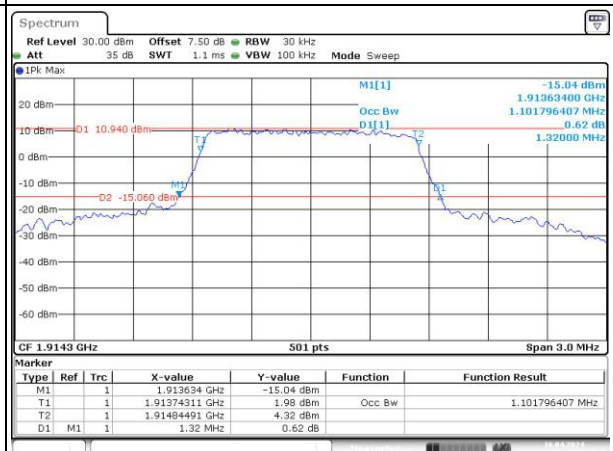
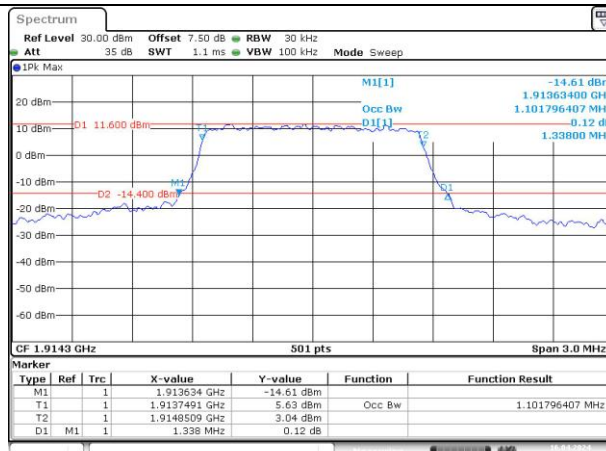
Lowest



Middle



Highest



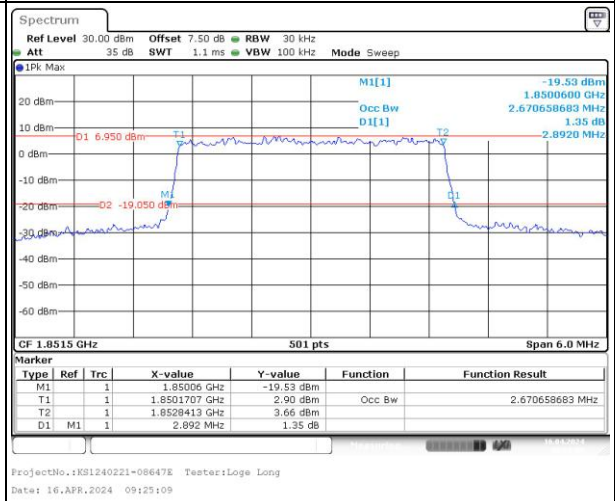
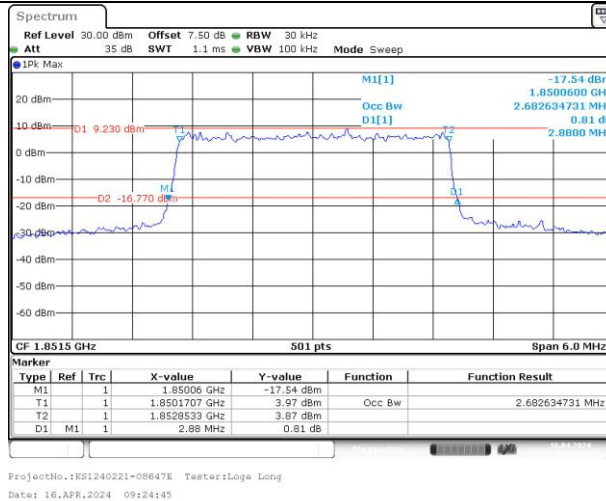
Occupied Bandwidth

Channel

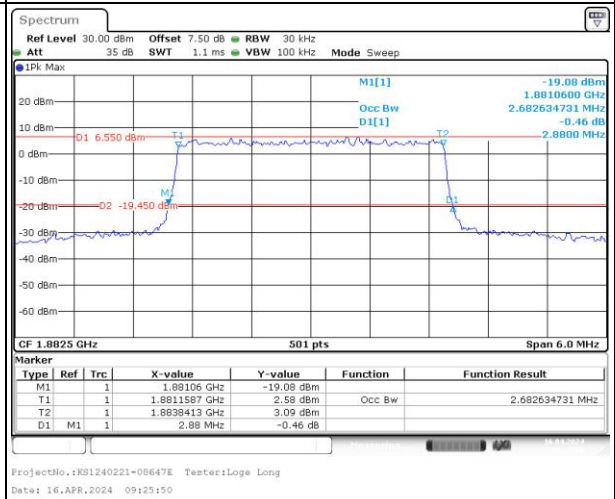
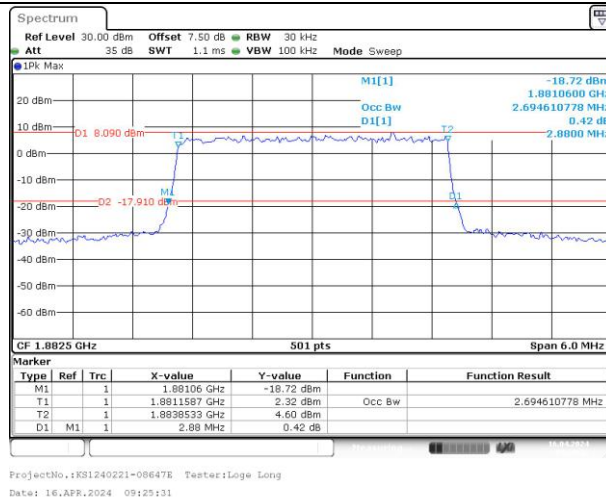
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

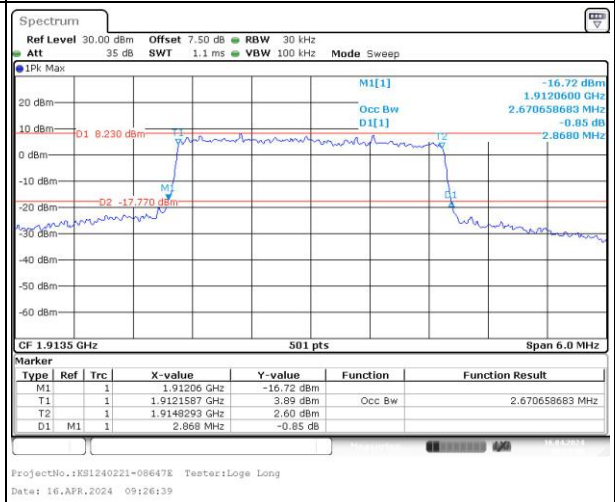
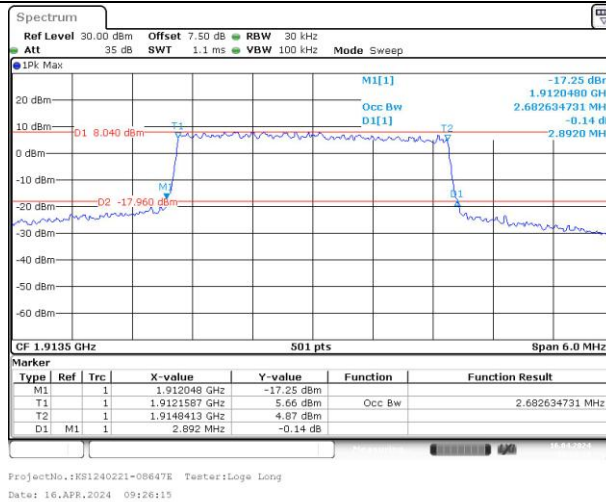
Lowest



Middle



Highest



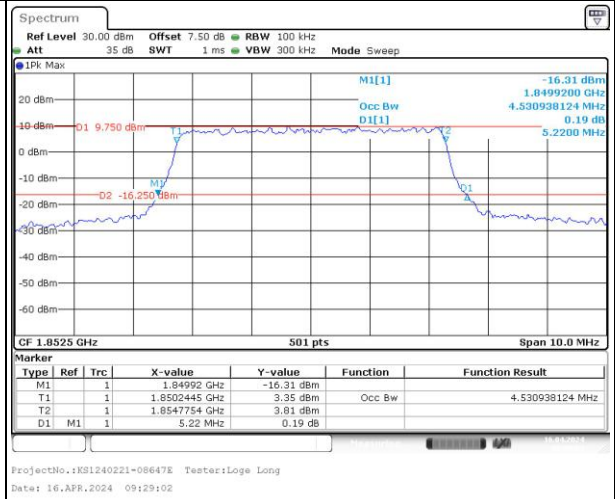
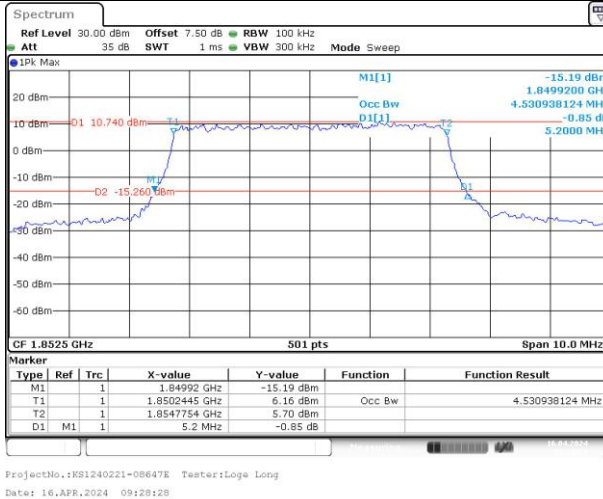
Occupied Bandwidth

Channel

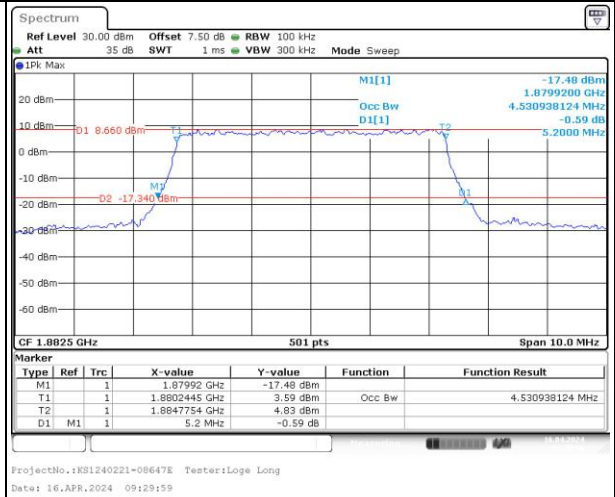
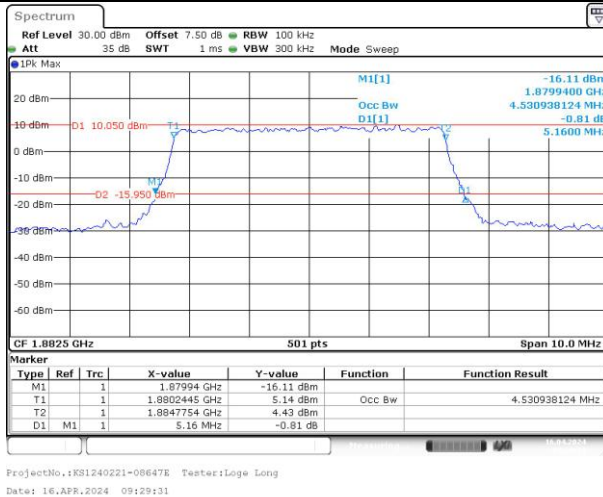
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

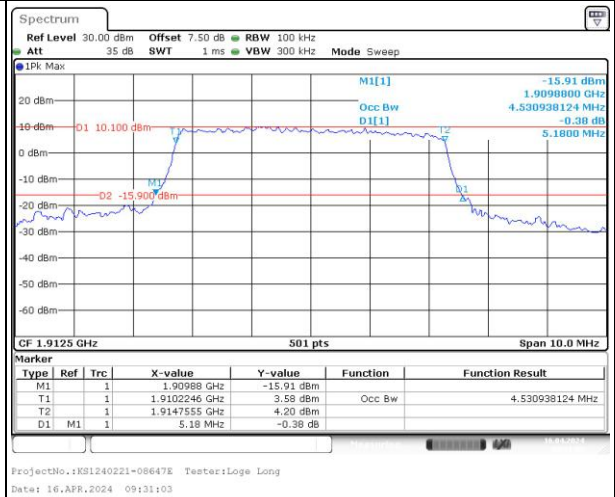
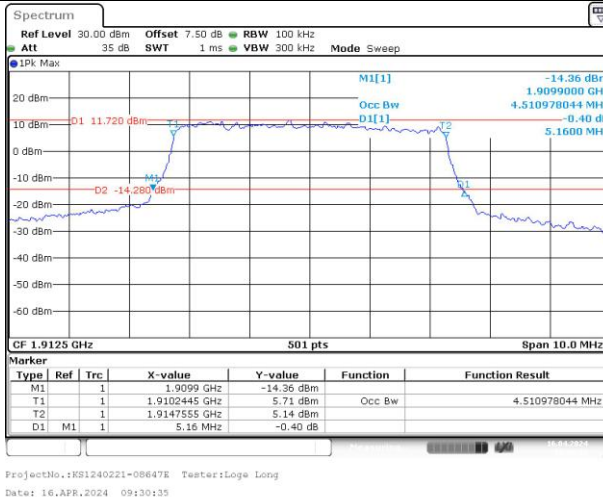
Lowest



Middle



Highest



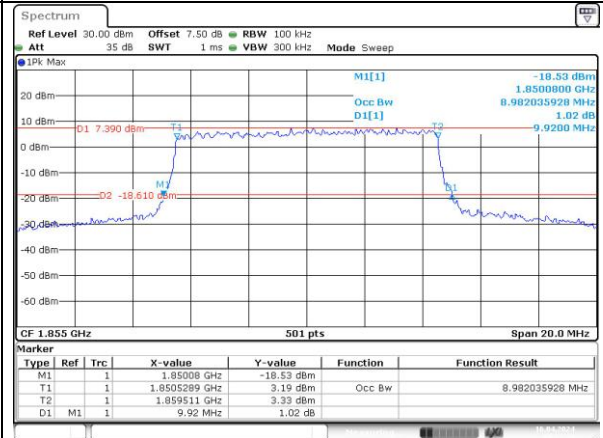
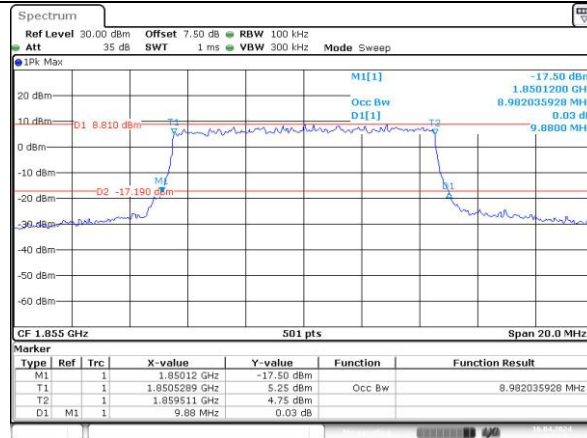
Occupied Bandwidth

Channel

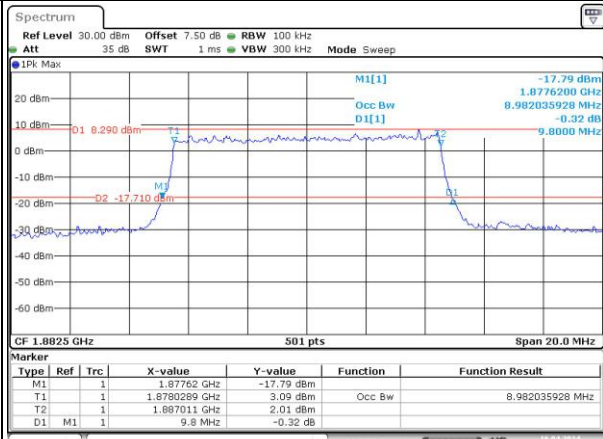
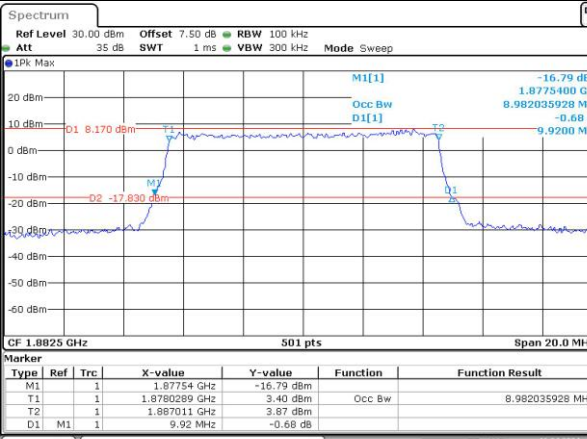
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Lowest



Middle



Highest

