



Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
	Schwarz		124534/wk		
Spectrum Analyzer	Rohde& Schwarz	FSL	10246	2013.05	2014.05
Spectrum Analyzer	Agilent	E4445A	MY44200685	2013.05	2014.05
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2013.05	2014.05
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2013.05	2014.05
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2013.05	2014.05

2.7.3 Test Result

The EUT was verified under all configurations (RB size and offset) and the worst case radiated power reported for each modulation/channel bandwidth.

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT} .



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
LTE Band 4	20MHz	L 20050	1720	QPSK	1	0	24.61
					1	49	24.13
					1	99	25.72
					50	0	23.89
					50	25	23.78
					50	49	24.32
					100	0	24.09
				16-QAM	1	0	23.87
					1	49	23.78
					1	99	24.68
					50	0	24.52
					50	25	24.14
					50	49	24.12
					100	0	23.46
		M 20175	QPSK	1	0	25.81	
				1	49	25.92	
				1	99	25.94	
				50	0	25.04	
				50	25	25.12	
				50	49	25.76	
				100	0	23.49	
			16-QAM	1	0	26.34	
				1	49	24.42	
				1	99	25.69	
				50	0	25.41	
				50	25	25.17	
				50	49	25.56	
				100	0	26.41	
H 20300	QPSK	1	0	25.53			
		1	49	25.34			
		1	99	26.08			
		50	0	26.61			
		50	25	26.12			
		50	49	26.34			
		100	0	26.41			
	16-QAM	1	0	25.98			
		1	49	26.12			



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)			
					RB Size	RB Offset				
					1	99	25.83			
					50	0	25.32			
					50	25	25.12			
					50	49	25.44			
					100	0	24.67			
					L 20025	1717.5	QPSK	1	0	25.84
								1	37	26,12
								1	74	26.35
								36	0	26.14
								36	18	26.26
	36	35	25.34							
	75	0	24.62							
	16-QAM	1	0	25.26						
		1	37	25.23						
		1	74	25.67						
		36	0	25.54						
		36	18	24.98						
		36	35	24.12						
	M 20175	1732.5	QPSK	1	0	26.78				
				1	37	26.21				
				1	74	26.64				
				36	0	26.89				
				36	18	25.76				
				36	35	26.23				
			75	0	25.62					
			16-QAM	1	0	25.94				
				1	37	26.78				
				1	74	26.31				
	36	0		25.98						
	H 20325	1747.5	QPSK	36	18	25.65				
				36	35	25.34				
				75	0	24.35				
1				0	26.41					
1				37	26.76					
1				74	26.81					
36	0	26.34								



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)	
					RB Size	RB Offset		
					36	18	26.13	
					36	35	25.87	
					75	0	25.38	
				16-QAM	1	0	25.84	
					1	37	25.43	
					1	74	26.19	
					36	0	26.46	
					36	18	26.32	
					36	35	25.34	
					75	0	25.82	
					QPSK	1	0	26.03
						1	24	26.08
	1	49	26.51					
	25	0	26.03					
	25	12	25.12					
	25	24	25.65					
	16-QAM	50	0	24.85				
		1	0	26.64				
		1	24	26.01				
		1	49	26.8				
		25	0	26.34				
		25	12	26.54				
		25	24	24.87				
	10MHz	L 20000	1715	QPSK	1	0	27.06	
					1	24	27.05	
					1	49	26.66	
					25	0	25.54	
25					12	26.34		
25					24	27.64		
M 20175		1732.5	QPSK	50	0	26.32		
				16-QAM	1	0	26.05	
					1	24	26.03	
					1	49	26.44	
				25	0	25.43		
				25	12	25.64		
25	24	26.75						



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
		H 20350	1750	QPSK	50	0	25.03
					1	0	25.84
					1	24	25.67
					1	49	25.96
					25	0	26.34
					25	12	26.78
					25	24	27.54
				50	0	26.05	
				16-QAM	1	0	24.88
					1	24	25.65
					1	49	25.21
					25	0	25.34
					25	12	24.85
					25	24	25.43
				5MHz	L 19975	1712.5	QPSK
	1	12	26.53				
	1	24	26.54				
	12	0	26.87				
	12	6	25.64				
	12	11	26.42				
	16-QAM	25	0				25.51
		1	0				25.33
		1	12				26.64
		1	24				26.04
		12	0				25.74
		12	6				25.53
		M 20175	1732.5	QPSK	12	11	25.24
					25	0	24.33
					1	0	26.65
					1	12	26.23
					1	24	26.44
					12	0	26.43
					12	6	26.68
16-QAM				12	11	26.43	
				25	0	25.25	
				1	0	25.38	



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
	3MHz	H 20375	1752.5	QPSK	1	12	25.18
					1	24	25.94
					12	0	25.89
					12	6	26.43
					12	11	25.43
					25	0	24.88
				16-QAM	1	0	26.09
					1	12	26.37
					1	24	26.27
					12	0	26.87
					12	6	26.67
					12	11	27.23
		L 19965	1711.5	QPSK	1	0	26.69
					1	7	26.34
					1	14	26.84
					8	0	26.65
					8	4	26.85
					8	7	26.45
				16-QAM	15	0	25.35
					1	0	26.39
					1	7	25.65
					1	14	26.95
					8	0	26.54
					8	4	25.45
		M 20175	1732.5	QPSK	8	7	25.56
					15	0	24.63
					1	0	26.81
					1	7	26.05
					1	14	26.34



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Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)				
					RB Size	RB Offset					
					8	0	26.54				
					8	4	26.76				
					8	7	25.54				
					15	0	24.88				
				16-QAM	1	0	25.06				
					1	7	25.43				
					1	14	25.21				
					8	0	26.23				
					8	4	25.76				
					8	7	25.65				
					15	0	24.35				
				QPSK	1	0	24.66				
					1	7	26.78				
					1	14	26.64				
	8	0	26.43								
	8	4	25.56								
	8	7	26.74								
	15	0	25.09								
	16-QAM	1	0	26.81							
		1	7	26.65							
		1	14	26.45							
		8	0	25.89							
		8	4	26.21							
		8	7	25.78							
		15	0	24.66							
	1.4MHz	H 20385	1753.5			1	0	26.26			
						1	2	26.58			
						1	5	26.51			
3						0	26.92				
3						1	26.62				
3						2	26.34				
6						0	25.39				
16-QAM		1		0		26.22					
		1		2		25.34					
		1		5		26.13					
		3		0		26.74					
		3		1		26.83					
		L 19957		1710.7					1	0	26.26
									1	2	26.58
1	5		26.51								
3	0		26.92								
3	1		26.62								
3	2		26.34								
6	0		25.39								
16-QAM	1	0	26.22								
	1	2	25.34								
	1	5	26.13								
	3	0	26.74								
	3	1	26.83								



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)		
					RB Size	RB Offset			
					3	2	25.76		
					6	0	24.55		
		M 20175	1732.5		QPSK	1	0	26.88	
						1	2	27.98	
						1	5	27.11	
						3	0	27.34	
						3	1	27.45	
						3	2	27.85	
						6	0	26.16	
						16-QAM	1	0	25.98
							1	2	26.09
							1	5	26.55
							3	0	26.77
							3	2	26.34
							3	5	26.48
						H 20393	1754.5		QPSK
		1	0	26.85					
		1	2	26.48					
		1	5	26.77					
		3	0	26.38					
		3	1	26.74					
		3	2	26.98					
		16-QAM	6	0	25.53				
			1	0	26.2				
			1	2	26.68				
			1	5	25.93				
			3	0	25.38				
			3	1	25.73				
3	2		25.98						
6	0	24.85							

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
LTE Band 17	10MHz	L 23780	709	QPSK	1	0	23.41
					1	24	24.65
					1	49	23.16



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
		M 23790	710		25	0	23.56
					25	12	23.65
					25	24	23.64
					50	0	22.46
				16-QAM	1	0	22.32
					1	24	23.78
					1	49	22.64
					25	0	23.76
					25	12	22.34
					25	24	22.54
				QPSK	50	0	21.16
					1	0	22.84
					1	24	23.38
					1	49	22.95
		25	0		23.59		
		25	12		23.64		
		16-QAM	25	24	23.57		
			50	0	22.33		
			1	0	22.16		
			1	24	22.95		
			1	49	22.53		
			25	0	22.56		
			25	12	22.48		
		QPSK	25	24	22.55		
			50	0	21.33		
			1	0	22.84		
			1	24	23.29		
			1	49	23.16		
25	0		23.84				
25	12		23.57				
16-QAM	25	24	23.67				
	50	0	22.35				
	1	0	22.14				
	1	24	22.47				
	1	49	22.71				
	25	0	23.54				
	25	12	22.45				



Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
	5MHz	L 23755	706.5	QPSK	25	24	22.64
					50	0	21.14
					1	0	23.35
					1	12	22.58
					1	24	22.84
				12	0	23.12	
				12	6	23.68	
				12	11	23.54	
				25	0	22.16	
				16-QAM	1	0	22.35
		1	12		22.65		
		1	24		22.1		
		12	0		22.65		
		12	6		22.56		
		12	11		23.76		
		25	0		22.44		
		M 23790	QPSK	1	0	22.62	
				1	12	22.76	
				1	24	22.93	
				12	0	22.79	
				12	6	22.65	
			12	11	23.65		
			25	0	22.62		
			16-QAM	1	0	22.18	
				1	12	22.56	
				1	24	22.66	
		12		0	22.87		
		12		6	22.65		
		12	11	22.84			
		25	0	21.33			
H 23825	QPSK	1	0	22.52			
		1	12	22.93			
		1	24	22.63			
		12	0	23.01			
		12	6	22.65			
		12	11	22.55			
		25	0	21.24			



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Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
				16-QAM	1	0	22.88
					1	12	22.74
					1	24	23.16
					12	0	23.09
					12	6	23.54
					12	11	23.84
					25	0	22.66

2.8 Radiated Spurious Emissions

2.8.1 Requirement

According to FCC section 2.1053 and section 27.53(g), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

2.8.2 Test Description

See section 2.7.2 of this report.

Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.8.3 Test Result

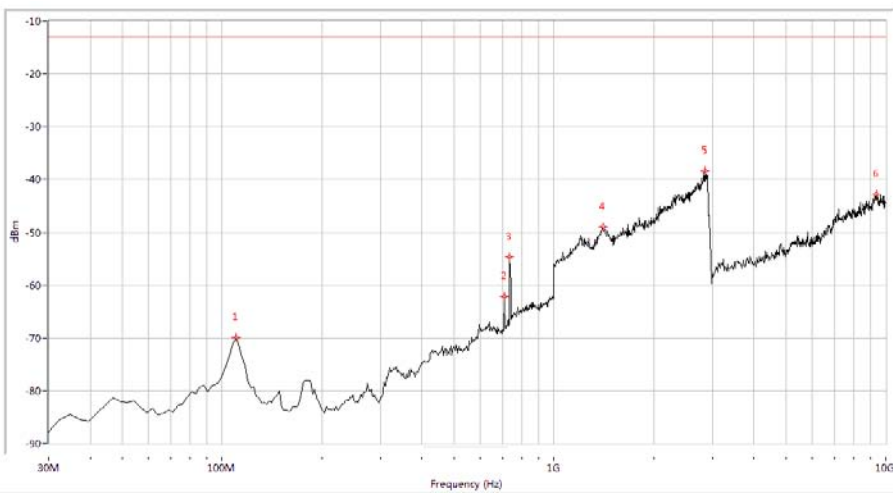
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

Test Plots for the Whole Measurement Frequency Range:

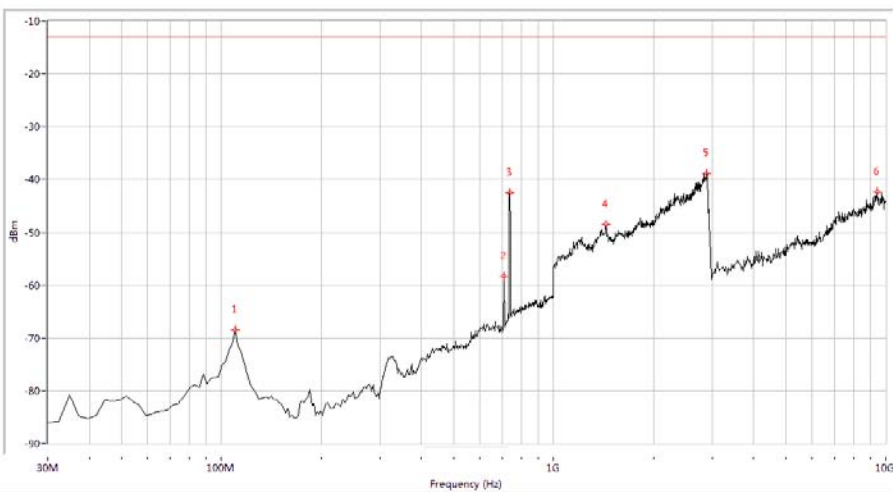
Note1: the power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

LTE Band 17 5MHz BW, Mid Channel, QPSK

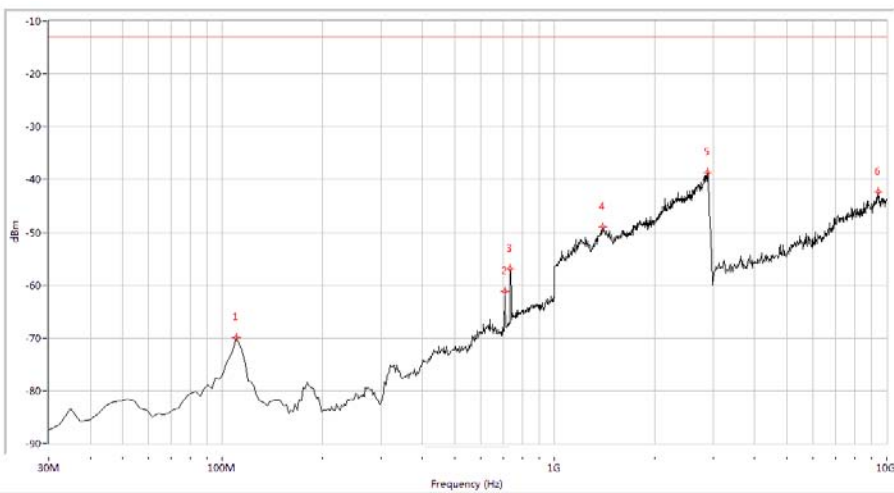


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.95	-13.0	57.0	32.3	Horizontal	<u>PASS</u>
707.307	-62.19	-13.0	49.2	290.8	Horizontal	<u>PASS</u>
736.334	-54.70	-13.0	41.7	191.1	Horizontal	<u>PASS</u>
1403.990	-48.92	-13.0	35.9	234.4	Horizontal	<u>PASS</u>
2850.374	-38.42	-13.0	25.4	262.7	Horizontal	<u>PASS</u>
9389.027	-42.80	-13.0	29.8	263.2	Horizontal	<u>PASS</u>

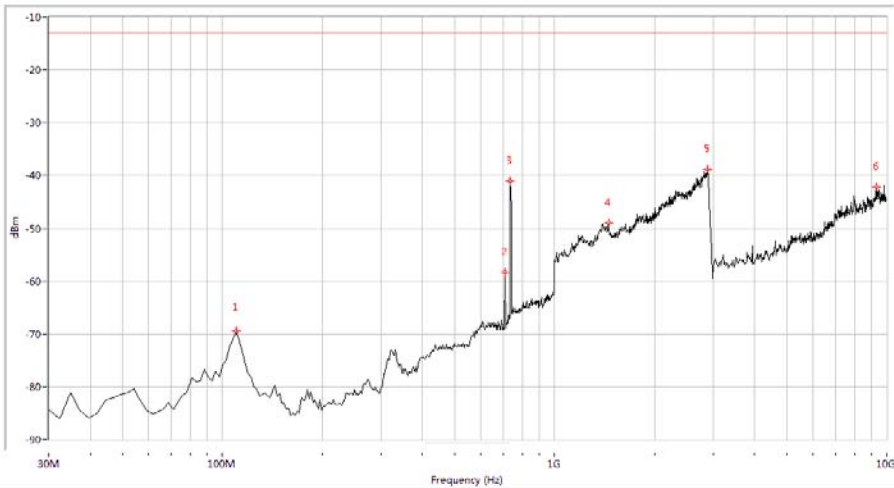


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.44	-13.0	55.4	158.5	Vertical	<u>PASS</u>
707.307	-58.25	-13.0	45.2	15.3	Vertical	<u>PASS</u>
738.753	-42.44	-13.0	29.4	31.0	Vertical	<u>PASS</u>
1438.903	-48.56	-13.0	35.6	49.3	Vertical	<u>PASS</u>
2885.287	-38.84	-13.0	25.8	116.3	Vertical	<u>PASS</u>
9441.397	-42.36	-13.0	29.4	359.5	Vertical	<u>PASS</u>

LTE Band 17 5MHz BW, Mid Channel, 16QAM

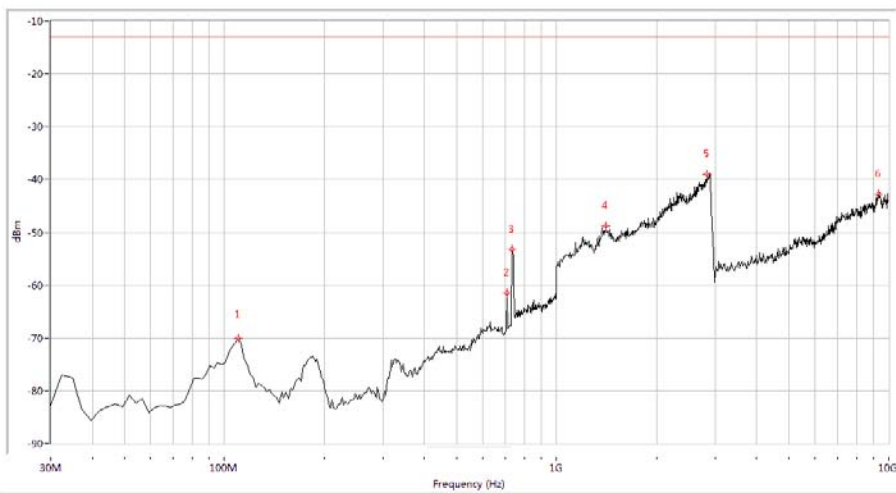


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.88	-13.0	56.9	287.9	Horizontal	<u>PASS</u>
707.307	-61.09	-13.0	48.1	272.7	Horizontal	<u>PASS</u>
736.334	-56.92	-13.0	43.9	53.3	Horizontal	<u>PASS</u>
1399.002	-48.91	-13.0	35.9	168.0	Horizontal	<u>PASS</u>
2895.262	-38.64	-13.0	25.6	46.8	Horizontal	<u>PASS</u>
9423.940	-42.28	-13.0	29.3	1.6	Horizontal	<u>PASS</u>

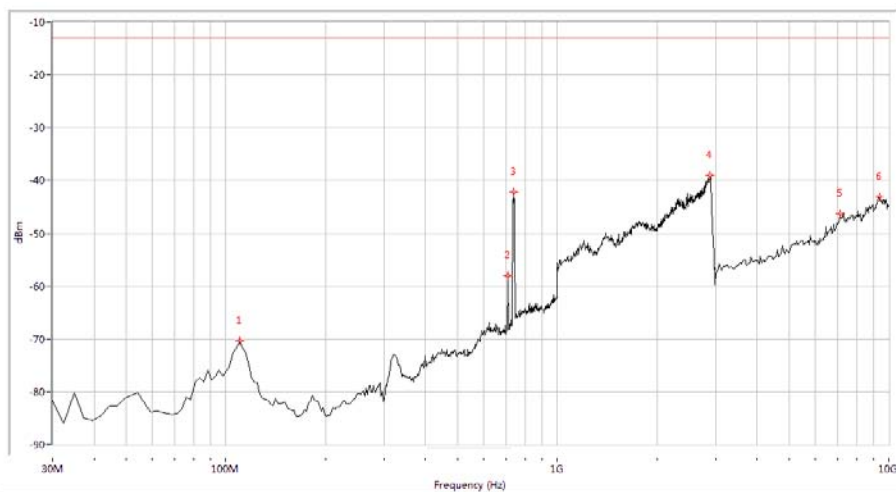


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.37	-13.0	56.4	133.0	Vertical	<u>PASS</u>
707.307	-58.37	-13.0	45.4	285.1	Vertical	<u>PASS</u>
736.334	-41.07	-13.0	28.1	86.9	Vertical	<u>PASS</u>
1453.865	-49.00	-13.0	36.0	225.2	Vertical	<u>PASS</u>
2885.287	-38.81	-13.0	25.8	52.5	Vertical	<u>PASS</u>
9301.746	-42.20	-13.0	29.2	320.9	Vertical	<u>PASS</u>

LTE Band 17 10MHz BW, Mid Channel, QPSK

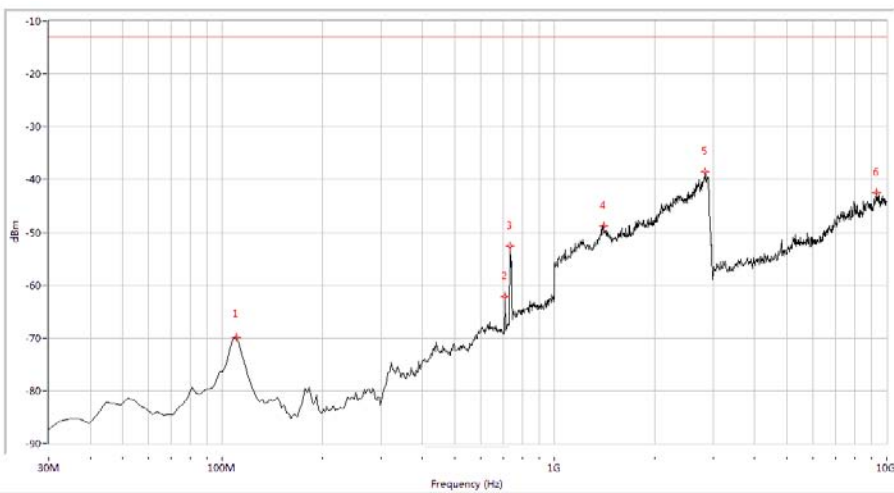


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.07	-13.0	57.1	34.1	Horizontal	<u>PASS</u>
707.307	-61.49	-13.0	48.5	62.0	Horizontal	<u>PASS</u>
733.915	-53.21	-13.0	40.2	269.9	Horizontal	<u>PASS</u>
1408.978	-48.89	-13.0	35.9	354.3	Horizontal	<u>PASS</u>
2840.399	-39.03	-13.0	26.0	73.4	Horizontal	<u>PASS</u>
9319.202	-42.80	-13.0	29.8	61.2	Horizontal	<u>PASS</u>

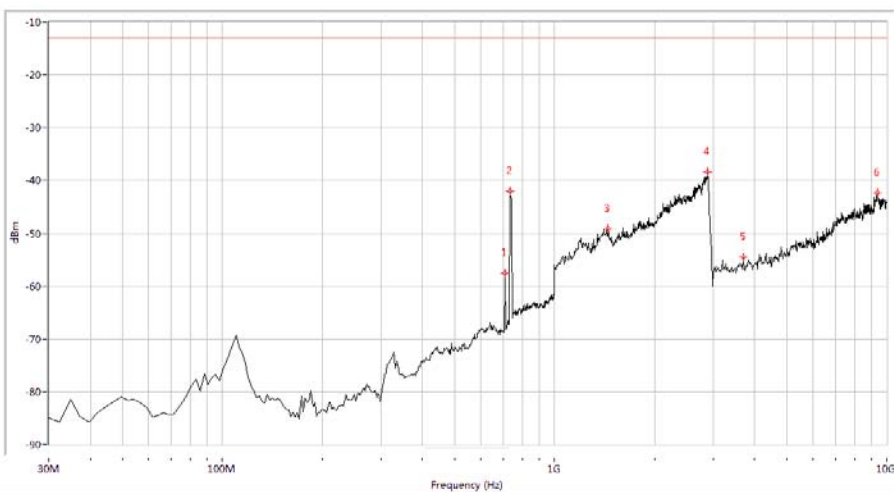


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.42	-13.0	57.4	336.2	Vertical	<u>PASS</u>
709.726	-57.96	-13.0	45.0	155.5	Vertical	<u>PASS</u>
738.753	-42.15	-13.0	29.1	288.6	Vertical	<u>PASS</u>
2895.262	-39.06	-13.0	26.1	155.3	Vertical	<u>PASS</u>
7154.613	-46.28	-13.0	33.3	96.8	Vertical	<u>PASS</u>
9359.102	-43.04	-13.0	30.0	147.4	Vertical	<u>PASS</u>

LTE Band 17 10MHz BW, Mid Channel, 16QAM

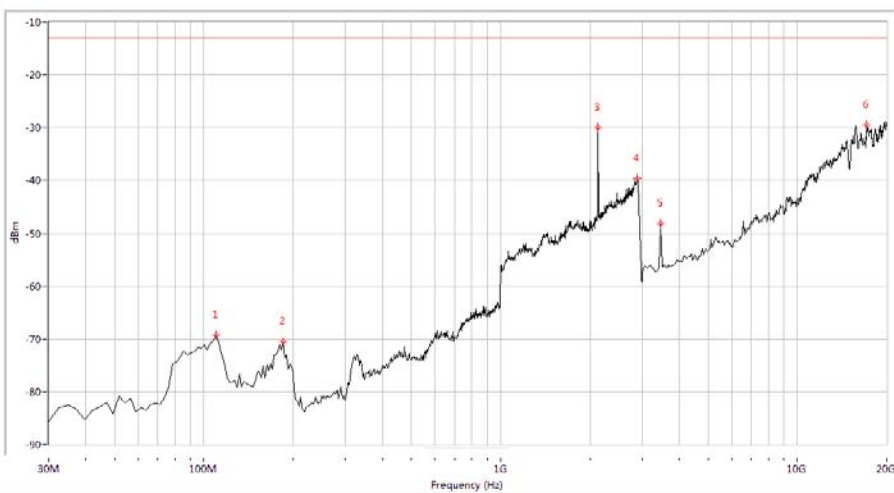


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.87	-13.0	56.9	312.4	Horizontal	<u>PASS</u>
709.726	-62.19	-13.0	49.2	120.9	Horizontal	<u>PASS</u>
733.915	-52.61	-13.0	39.6	360.0	Horizontal	<u>PASS</u>
1403.990	-48.79	-13.0	35.8	277.4	Horizontal	<u>PASS</u>
2840.399	-38.45	-13.0	25.5	77.3	Horizontal	<u>PASS</u>
9336.658	-42.50	-13.0	29.5	276.0	Horizontal	<u>PASS</u>

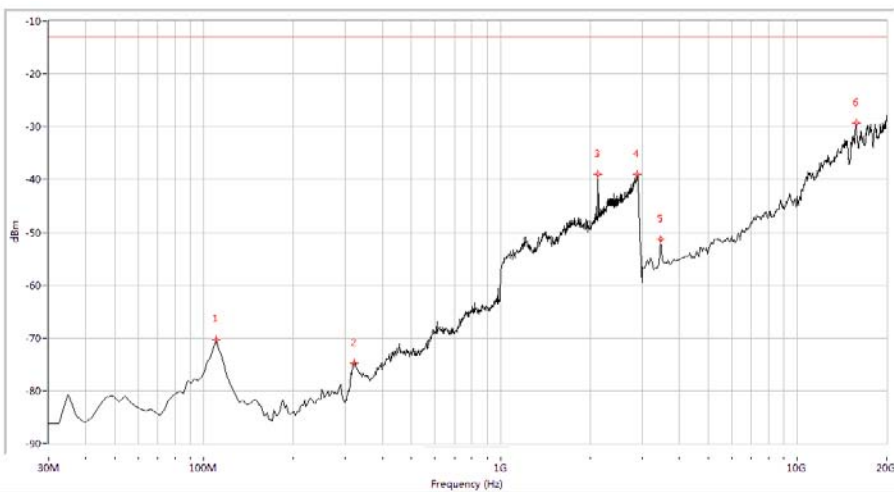


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
709.726	-57.46	-13.0	44.5	57.2	Vertical	<u>PASS</u>
733.915	-42.08	-13.0	29.1	31.5	Vertical	<u>PASS</u>
1448.878	-49.19	-13.0	36.2	355.0	Vertical	<u>PASS</u>
2895.262	-38.29	-13.0	25.3	61.8	Vertical	<u>PASS</u>
3698.254	-54.47	-13.0	41.5	-0.0	Vertical	<u>PASS</u>
9371.571	-42.25	-13.0	29.2	272.8	Vertical	<u>PASS</u>

LTE Band 4 1.4MHz BW, Mid Channel, QPSK

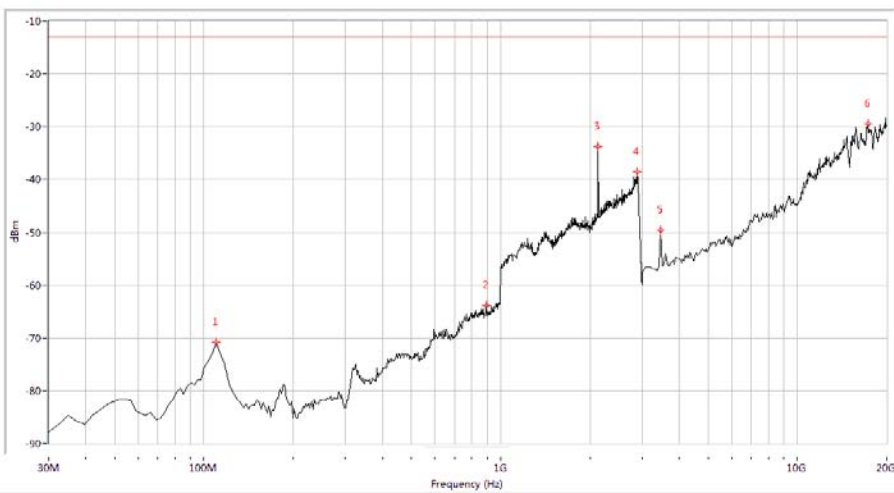


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.24	-13.0	56.2	63.8	Horizontal	<u>PASS</u>
184.813	-70.52	-13.0	57.5	46.7	Horizontal	<u>PASS</u>
2132.170	-29.96	-13.0	17.0	360.0	Horizontal	<u>PASS</u>
2895.262	-39.70	-13.0	26.7	232.9	Horizontal	<u>PASS</u>
3466.334	-48.21	-13.0	35.2	93.5	Horizontal	<u>PASS</u>
17159.601	-29.48	-13.0	16.5	-0.0	Horizontal	<u>PASS</u>

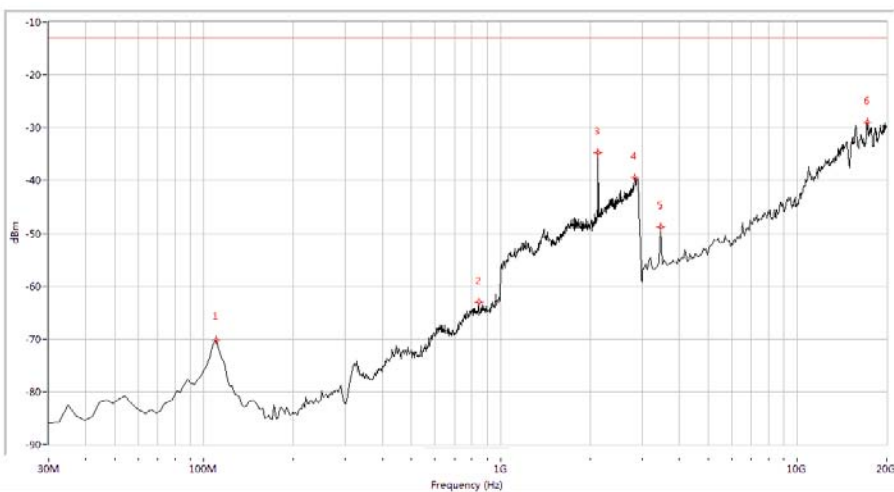


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.42	-13.0	57.4	132.2	Vertical	<u>PASS</u>
320.274	-74.87	-13.0	61.9	267.6	Vertical	<u>PASS</u>
2132.170	-39.03	-13.0	26.0	51.8	Vertical	<u>PASS</u>
2880.299	-39.05	-13.0	26.0	306.2	Vertical	<u>PASS</u>
3466.334	-51.41	-13.0	38.4	98.4	Vertical	<u>PASS</u>
15802.993	-29.26	-13.0	16.3	275.9	Vertical	<u>PASS</u>

LTE Band 4 1.4MHz BW, Mid Channel, 16QAM

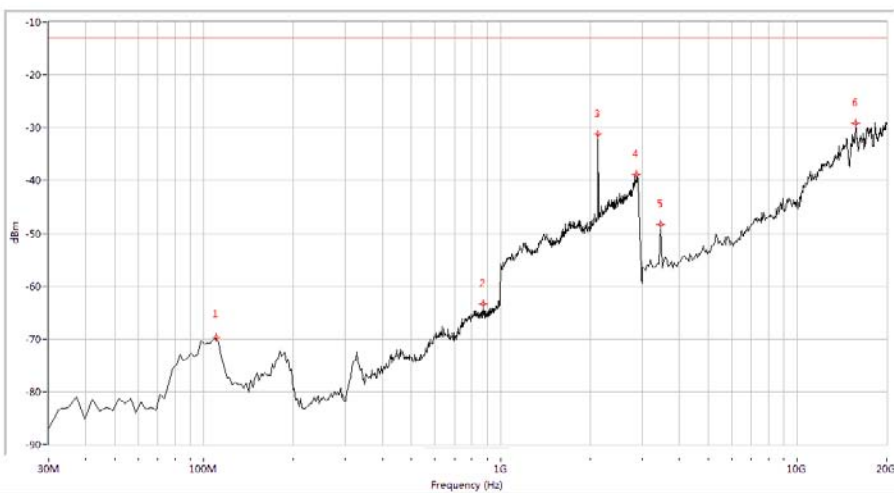


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.91	-13.0	57.9	31.3	Horizontal	<u>PASS</u>
898.404	-63.78	-13.0	50.8	3.4	Horizontal	<u>PASS</u>
2132.170	-33.79	-13.0	20.8	360.0	Horizontal	<u>PASS</u>
2885.287	-38.56	-13.0	25.6	266.6	Horizontal	<u>PASS</u>
3466.334	-49.57	-13.0	36.6	360.0	Horizontal	<u>PASS</u>
17371.571	-29.52	-13.0	16.5	39.1	Horizontal	<u>PASS</u>

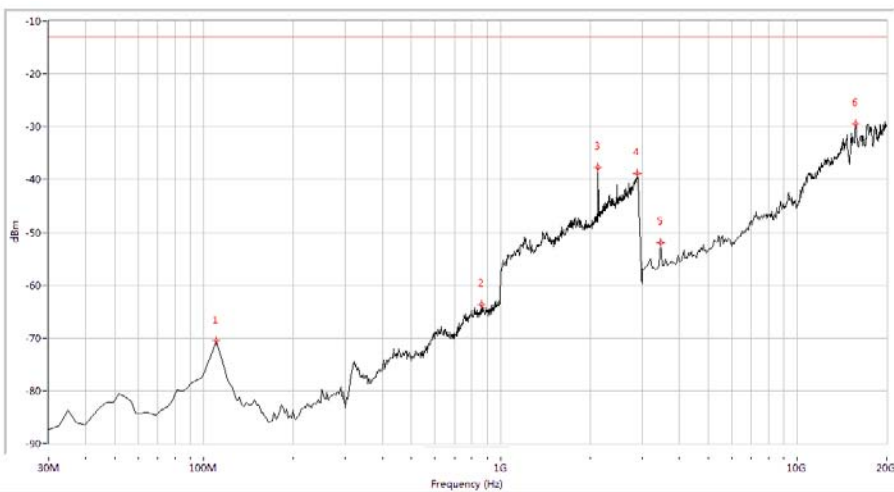


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.27	-13.0	57.3	196.1	Vertical	<u>PASS</u>
845.187	-63.11	-13.0	50.1	18.3	Vertical	<u>PASS</u>
2132.170	-34.69	-13.0	21.7	108.5	Vertical	<u>PASS</u>
2835.411	-39.44	-13.0	26.4	112.2	Vertical	<u>PASS</u>
3466.334	-48.75	-13.0	35.8	360.0	Vertical	<u>PASS</u>
17201.995	-29.05	-13.0	16.1	360.0	Vertical	<u>PASS</u>

LTE Band 4 3MHz BW, Mid Channel, QPSK

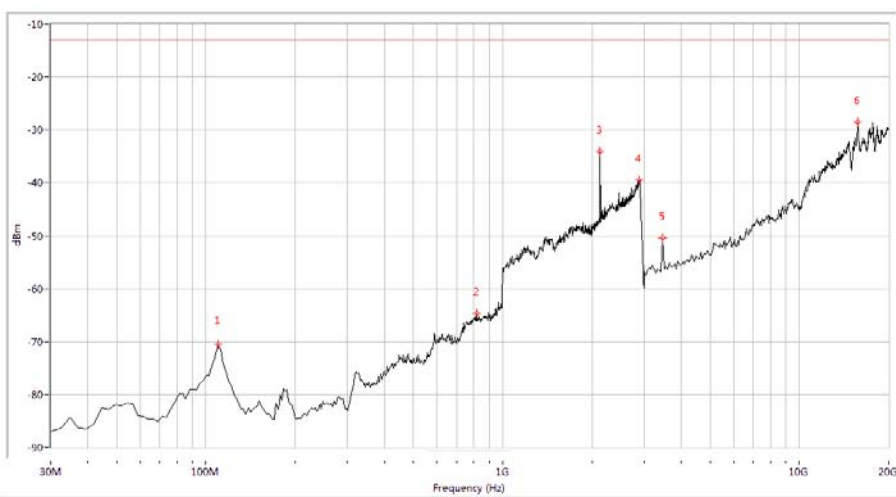


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.79	-13.0	56.8	86.4	Horizontal	<u>PASS</u>
871.796	-63.34	-13.0	50.3	129.5	Horizontal	<u>PASS</u>
2132.170	-31.20	-13.0	18.2	181.8	Horizontal	<u>PASS</u>
2875.312	-38.77	-13.0	25.8	0.1	Horizontal	<u>PASS</u>
3466.334	-48.29	-13.0	35.3	128.4	Horizontal	<u>PASS</u>
15760.599	-29.13	-13.0	16.1	-0.0	Horizontal	<u>PASS</u>

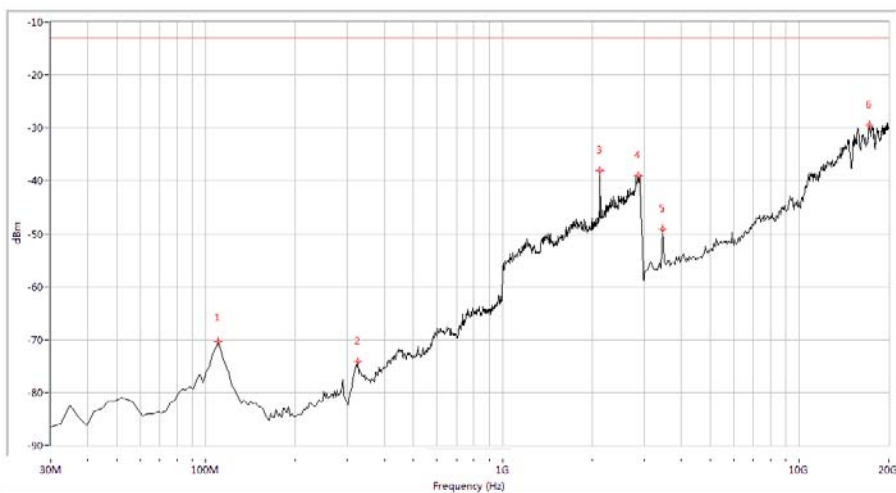


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.47	-13.0	57.5	186.7	Vertical	<u>PASS</u>
859.701	-63.70	-13.0	50.7	80.7	Vertical	<u>PASS</u>
2132.170	-37.75	-13.0	24.8	259.2	Vertical	<u>PASS</u>
2890.274	-38.79	-13.0	25.8	266.2	Vertical	<u>PASS</u>
3466.334	-52.03	-13.0	39.0	-0.0	Vertical	<u>PASS</u>
15718.204	-29.53	-13.0	16.5	268.6	Vertical	<u>PASS</u>

LTE Band 4 3MHz BW, Mid Channel, 16QAM

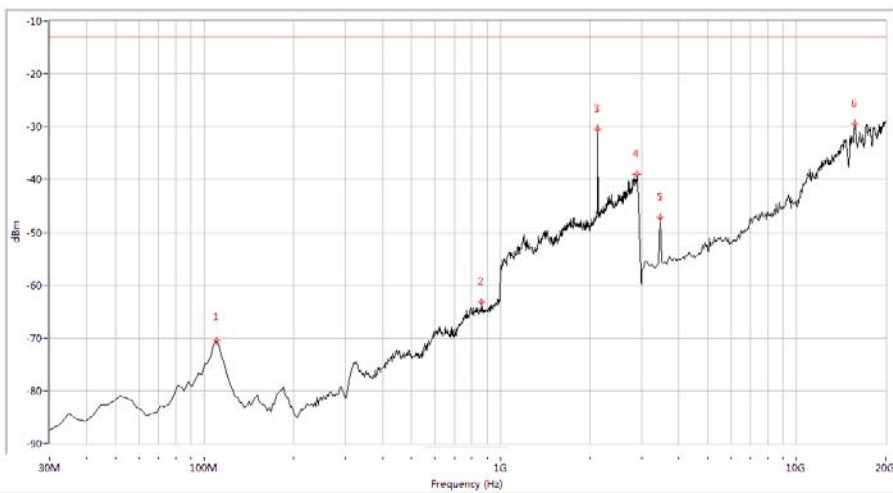


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.44	-13.0	57.4	360.0	Horizontal	<u>PASS</u>
820.998	-64.71	-13.0	51.7	201.1	Horizontal	<u>PASS</u>
2132.170	-34.06	-13.0	21.1	-0.0	Horizontal	<u>PASS</u>
2895.262	-39.47	-13.0	26.5	171.2	Horizontal	<u>PASS</u>
3466.334	-50.39	-13.0	37.4	277.7	Horizontal	<u>PASS</u>
15760.599	-28.60	-13.0	15.6	-0.0	Horizontal	<u>PASS</u>

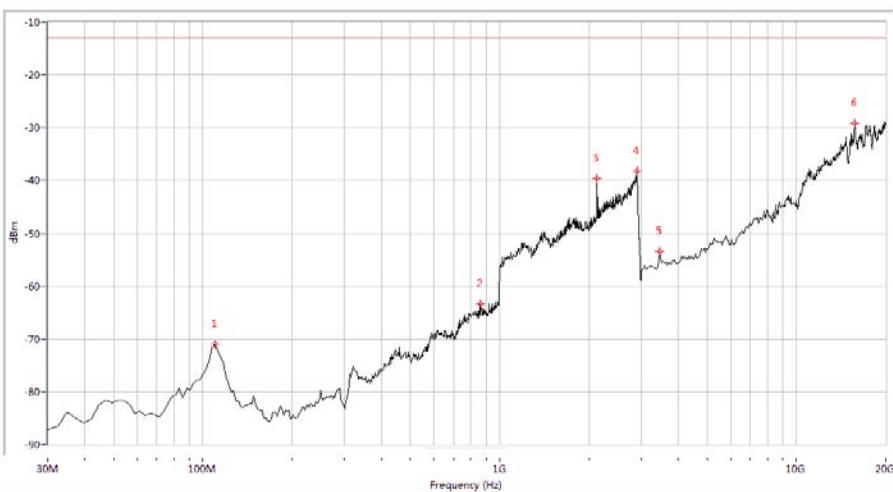


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.28	-13.0	57.3	57.1	Vertical	<u>PASS</u>
325.112	-74.16	-13.0	61.2	307.1	Vertical	<u>PASS</u>
2127.182	-38.09	-13.0	25.1	97.1	Vertical	<u>PASS</u>
2875.312	-39.03	-13.0	26.0	59.2	Vertical	<u>PASS</u>
3466.334	-49.09	-13.0	36.1	133.3	Vertical	<u>PASS</u>
17201.995	-29.45	-13.0	16.4	43.3	Vertical	<u>PASS</u>

LTE Band 4 5MHz BW, Mid Channel, QPSK

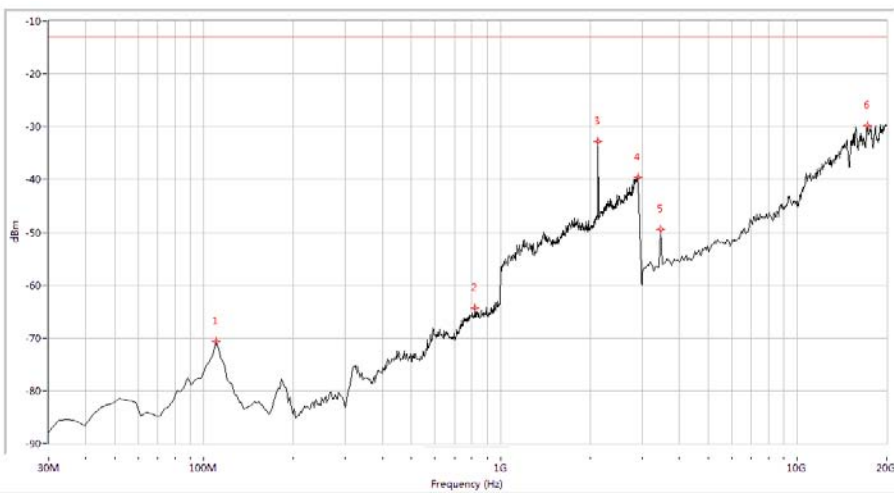


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.45	-13.0	57.5	56.2	Horizontal	<u>PASS</u>
864.539	-63.17	-13.0	50.2	199.4	Horizontal	<u>PASS</u>
2127.182	-30.46	-13.0	17.5	335.7	Horizontal	<u>PASS</u>
2885.287	-39.01	-13.0	26.0	263.5	Horizontal	<u>PASS</u>
3466.334	-47.27	-13.0	34.3	166.6	Horizontal	<u>PASS</u>
15760.599	-29.56	-13.0	16.6	74.8	Horizontal	<u>PASS</u>

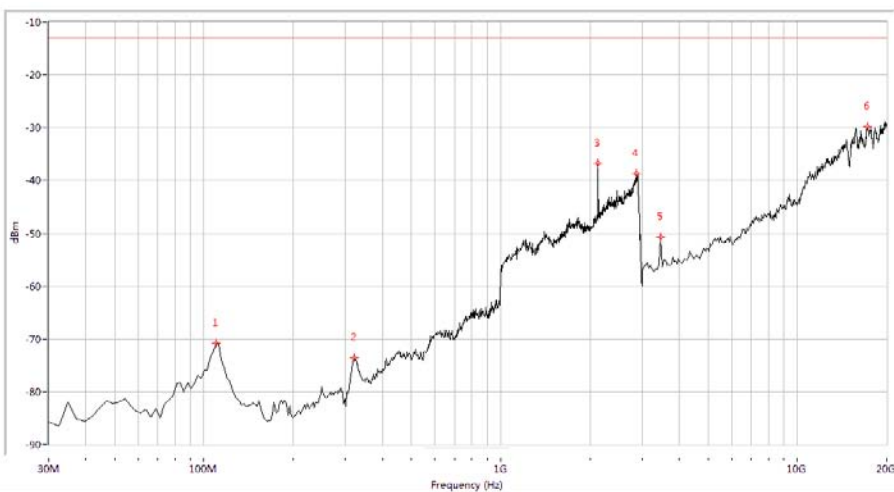


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-71.03	-13.0	58.0	312.6	Vertical	<u>PASS</u>
864.539	-63.39	-13.0	50.4	21.3	Vertical	<u>PASS</u>
2132.170	-39.62	-13.0	26.6	229.9	Vertical	<u>PASS</u>
2900.249	-38.18	-13.0	25.2	87.5	Vertical	<u>PASS</u>
3466.334	-53.34	-13.0	40.3	19.6	Vertical	<u>PASS</u>
15760.599	-29.17	-13.0	16.2	-0.0	Vertical	<u>PASS</u>

LTE Band 4 5MHz BW, Mid Channel, 16QAM

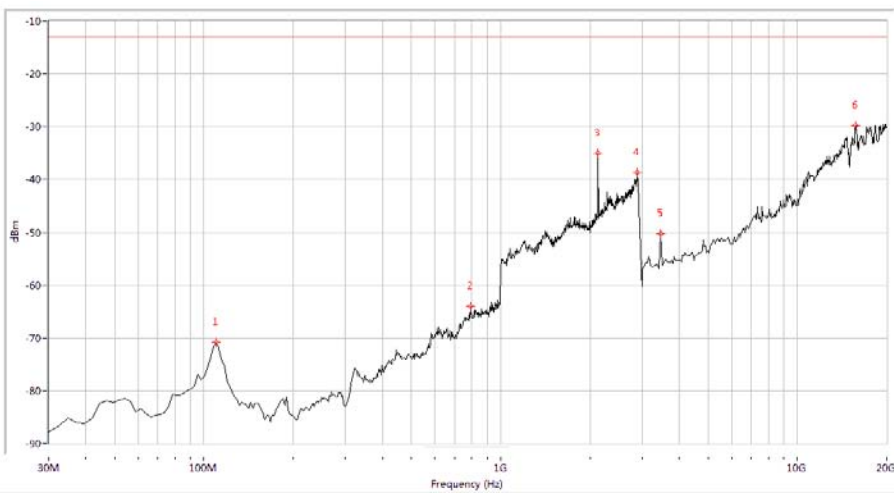


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.63	-13.0	57.6	174.4	Horizontal	<u>PASS</u>
818.579	-64.39	-13.0	51.4	94.1	Horizontal	<u>PASS</u>
2127.182	-32.73	-13.0	19.7	275.9	Horizontal	<u>PASS</u>
2905.237	-39.66	-13.0	26.7	354.1	Horizontal	<u>PASS</u>
3466.334	-49.51	-13.0	36.5	33.2	Horizontal	<u>PASS</u>
17201.995	-29.81	-13.0	16.8	81.1	Horizontal	<u>PASS</u>

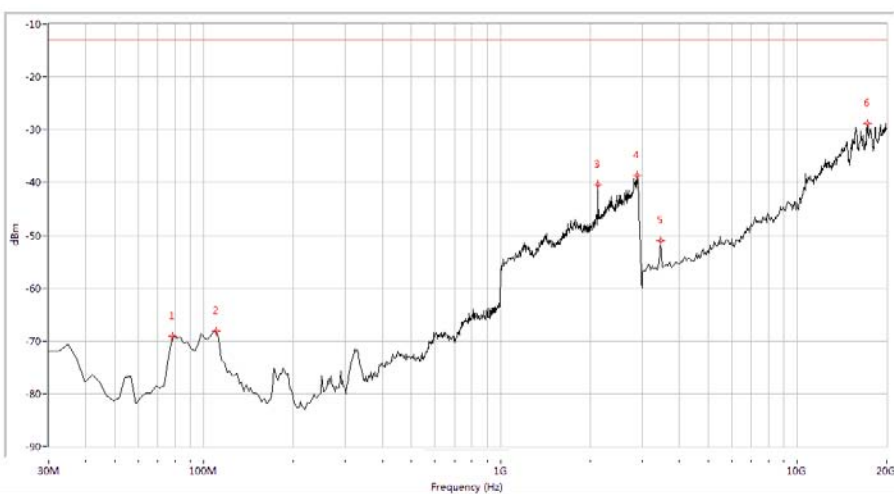


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.82	-13.0	57.8	346.6	Vertical	<u>PASS</u>
320.274	-73.49	-13.0	60.5	262.6	Vertical	<u>PASS</u>
2127.182	-36.70	-13.0	23.7	343.2	Vertical	<u>PASS</u>
2860.349	-38.69	-13.0	25.7	360.0	Vertical	<u>PASS</u>
3466.334	-50.76	-13.0	37.8	131.4	Vertical	<u>PASS</u>
17201.995	-29.76	-13.0	16.8	131.4	Vertical	<u>PASS</u>

LTE Band 4 10MHz BW, Mid Channel, QPSK

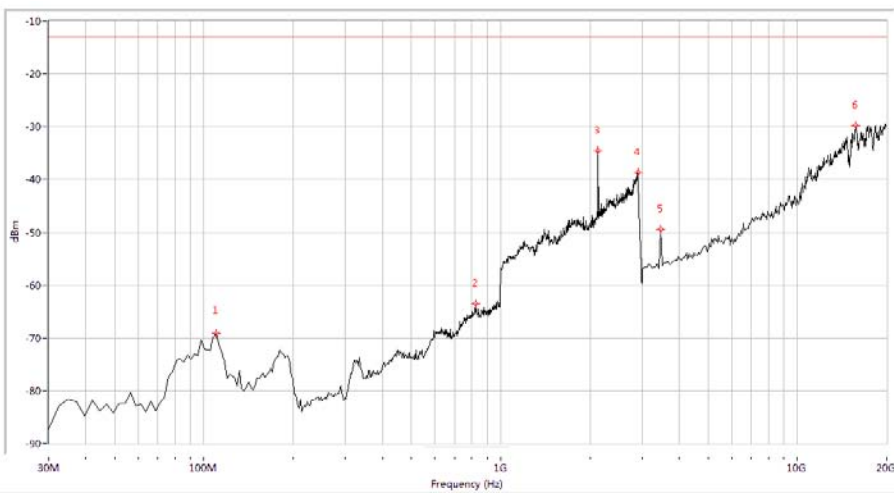


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.82	-13.0	57.8	105.7	Horizontal	<u>PASS</u>
791.970	-63.95	-13.0	50.9	350.1	Horizontal	<u>PASS</u>
2127.182	-35.04	-13.0	22.0	330.9	Horizontal	<u>PASS</u>
2890.274	-38.70	-13.0	25.7	47.1	Horizontal	<u>PASS</u>
3466.334	-50.23	-13.0	37.2	330.3	Horizontal	<u>PASS</u>
15760.599	-29.79	-13.0	16.8	91.9	Horizontal	<u>PASS</u>

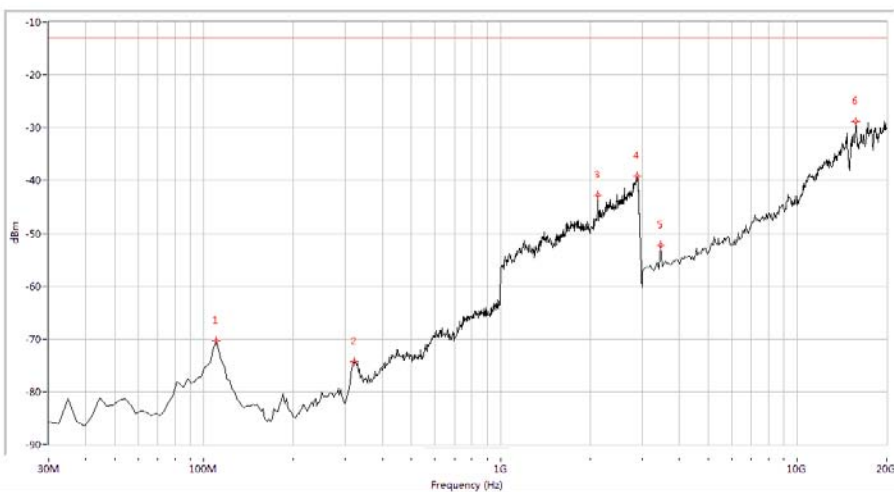


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
78.379	-69.04	-13.0	56.0	197.1	Vertical	<u>PASS</u>
109.825	-68.18	-13.0	55.2	208.3	Vertical	<u>PASS</u>
2127.182	-40.36	-13.0	27.4	230.8	Vertical	<u>PASS</u>
2895.262	-38.68	-13.0	25.7	316.0	Vertical	<u>PASS</u>
3466.334	-51.05	-13.0	38.1	32.1	Vertical	<u>PASS</u>
17201.995	-28.83	-13.0	15.8	135.8	Vertical	<u>PASS</u>

LTE Band 4 10MHz BW, Mid Channel, 16QAM

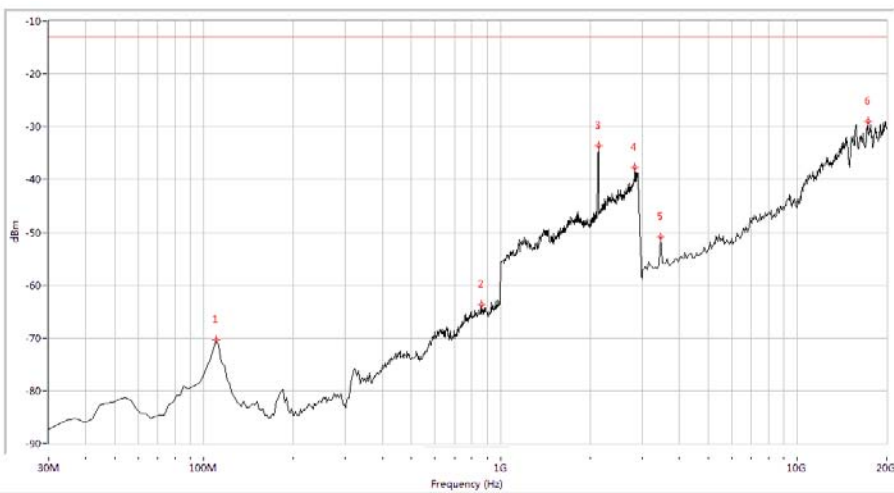


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.13	-13.0	56.1	57.2	Horizontal	<u>PASS</u>
825.835	-63.59	-13.0	50.6	190.4	Horizontal	<u>PASS</u>
2127.182	-34.59	-13.0	21.6	0.4	Horizontal	<u>PASS</u>
2900.249	-38.63	-13.0	25.6	110.5	Horizontal	<u>PASS</u>
3466.334	-49.37	-13.0	36.4	99.2	Horizontal	<u>PASS</u>
15760.599	-29.78	-13.0	16.8	333.9	Horizontal	<u>PASS</u>

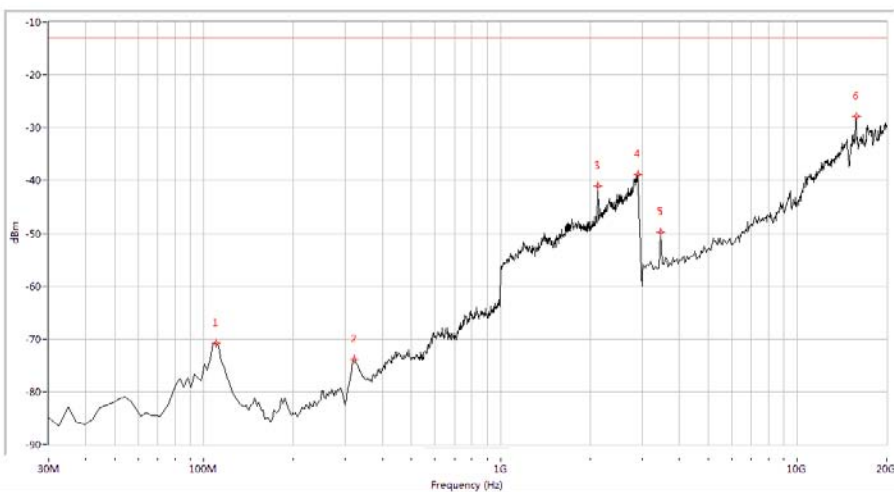


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.42	-13.0	57.4	-0.0	Vertical	<u>PASS</u>
320.274	-74.34	-13.0	61.3	262.8	Vertical	<u>PASS</u>
2127.182	-42.77	-13.0	29.8	108.6	Vertical	<u>PASS</u>
2885.287	-39.22	-13.0	26.2	184.9	Vertical	<u>PASS</u>
3466.334	-52.22	-13.0	39.2	83.1	Vertical	<u>PASS</u>
15760.599	-28.93	-13.0	15.9	-0.0	Vertical	<u>PASS</u>

LTE Band 4 15MHz BW, Mid Channel, QPSK

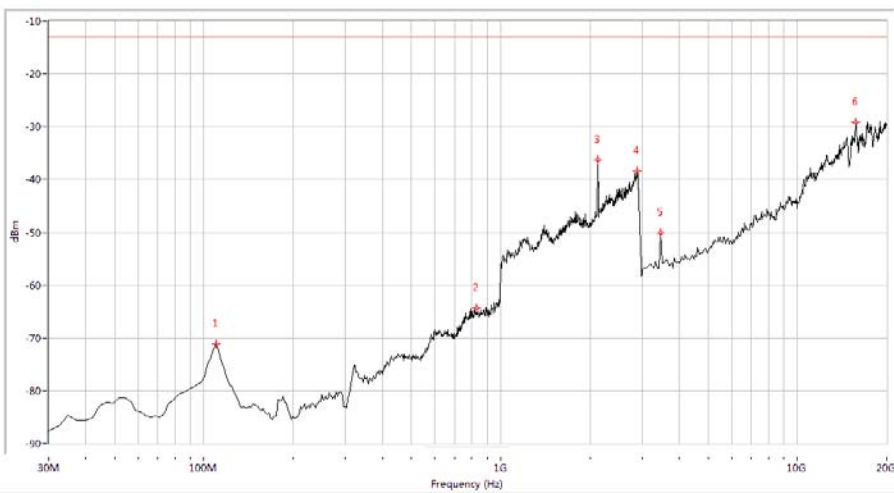


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.36	-13.0	57.4	210.7	Horizontal	<u>PASS</u>
862.120	-63.74	-13.0	50.7	-0.0	Horizontal	<u>PASS</u>
2137.157	-33.54	-13.0	20.5	253.4	Horizontal	<u>PASS</u>
2830.424	-37.78	-13.0	24.8	350.1	Horizontal	<u>PASS</u>
3466.334	-50.83	-13.0	37.8	142.3	Horizontal	<u>PASS</u>
17286.783	-28.94	-13.0	15.9	142.3	Horizontal	<u>PASS</u>

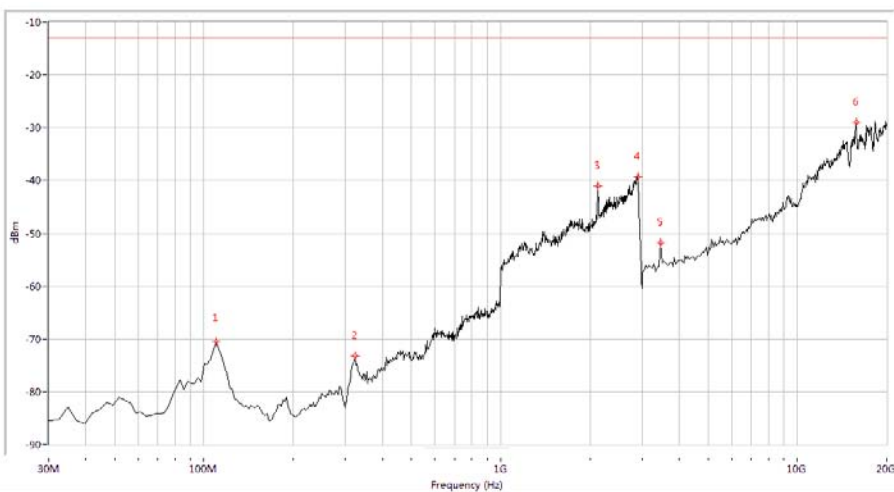


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.83	-13.0	57.8	152.2	Vertical	<u>PASS</u>
320.274	-73.89	-13.0	60.9	274.5	Vertical	<u>PASS</u>
2132.170	-41.08	-13.0	28.1	97.6	Vertical	<u>PASS</u>
2900.249	-38.81	-13.0	25.8	21.0	Vertical	<u>PASS</u>
3466.334	-49.80	-13.0	36.8	130.3	Vertical	<u>PASS</u>
15802.993	-27.96	-13.0	15.0	360.0	Vertical	<u>PASS</u>

LTE Band 4 15MHz BW, Mid Channel, 16QAM

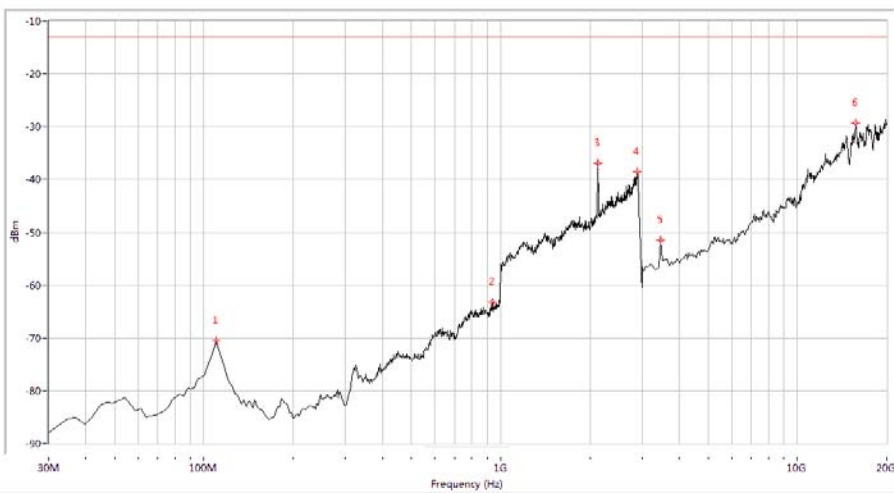


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-71.20	-13.0	58.2	158.7	Horizontal	<u>PASS</u>
830.673	-64.30	-13.0	51.3	47.2	Horizontal	<u>PASS</u>
2122.195	-36.26	-13.0	23.3	0.4	Horizontal	<u>PASS</u>
2880.299	-38.35	-13.0	25.3	250.6	Horizontal	<u>PASS</u>
3466.334	-50.03	-13.0	37.0	260.6	Horizontal	<u>PASS</u>
15760.599	-29.20	-13.0	16.2	105.6	Horizontal	<u>PASS</u>

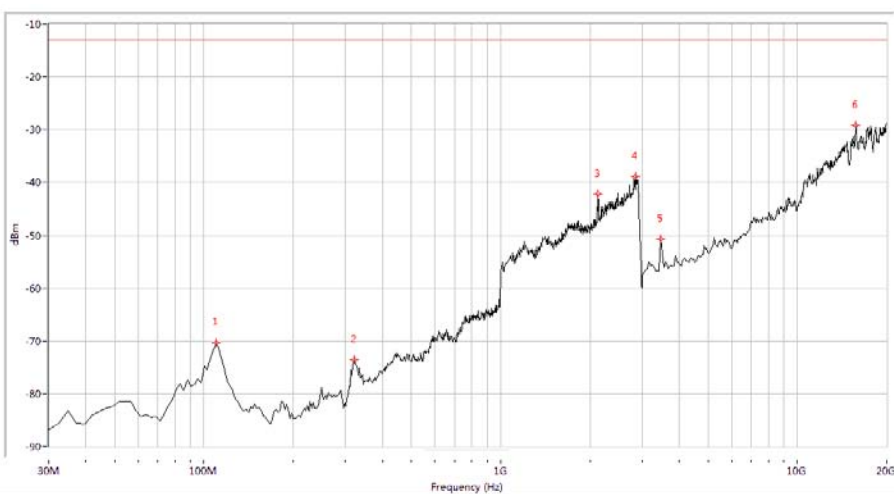


Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.59	-13.0	57.6	82.4	Vertical	<u>PASS</u>
322.693	-73.17	-13.0	60.2	173.9	Vertical	<u>PASS</u>
2122.195	-41.06	-13.0	28.1	232.0	Vertical	<u>PASS</u>
2900.249	-39.37	-13.0	26.4	333.2	Vertical	<u>PASS</u>
3466.334	-51.80	-13.0	38.8	16.2	Vertical	<u>PASS</u>
15802.993	-28.98	-13.0	16.0	172.9	Vertical	<u>PASS</u>

LTE Band 4 20MHz BW, Mid Channel, QPSK



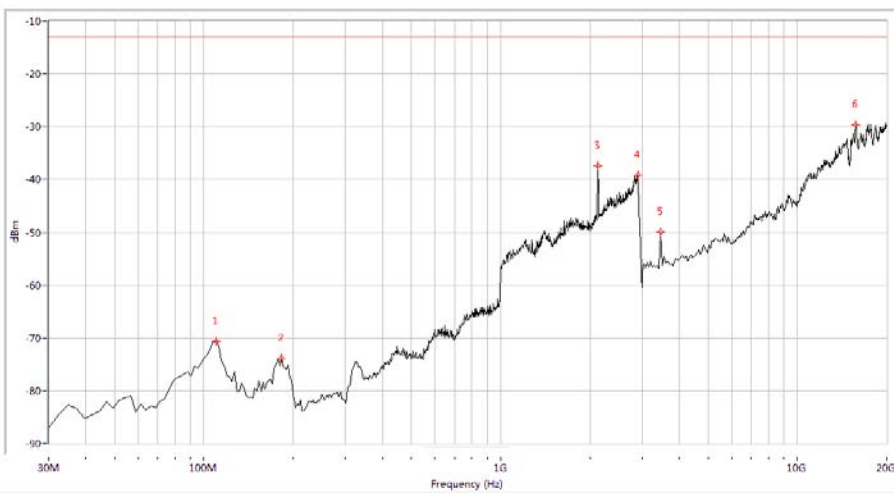
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.54	-13.0	57.5	78.0	Horizontal	<u>PASS</u>
937.107	-63.27	-13.0	50.3	245.0	Horizontal	<u>PASS</u>
2127.182	-36.89	-13.0	23.9	0.3	Horizontal	<u>PASS</u>
2890.274	-38.52	-13.0	25.5	-0.0	Horizontal	<u>PASS</u>
3466.334	-51.47	-13.0	38.5	276.6	Horizontal	<u>PASS</u>
15718.204	-29.37	-13.0	16.4	130.0	Horizontal	<u>PASS</u>



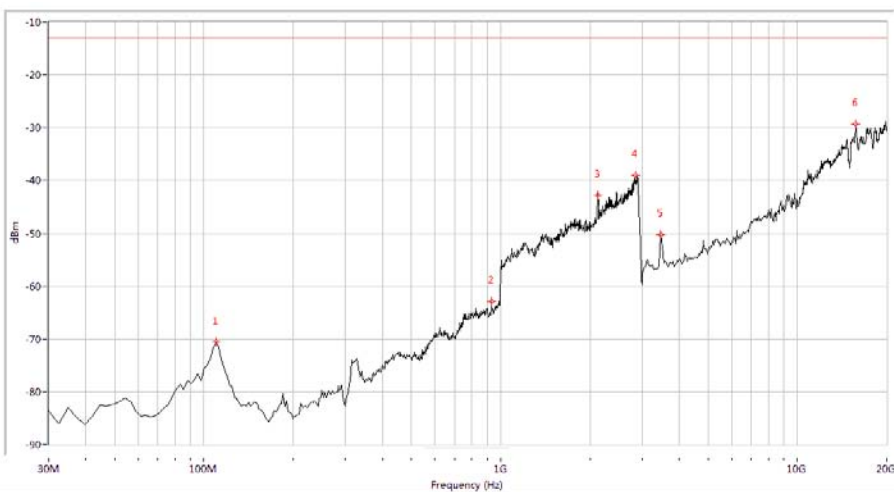
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.41	-13.0	57.4	269.2	Vertical	<u>PASS</u>
320.274	-73.45	-13.0	60.5	248.0	Vertical	<u>PASS</u>
2122.195	-42.22	-13.0	29.2	131.7	Vertical	<u>PASS</u>
2840.399	-38.90	-13.0	25.9	4.9	Vertical	<u>PASS</u>
3466.334	-50.70	-13.0	37.7	196.2	Vertical	<u>PASS</u>
15760.599	-29.25	-13.0	16.2	116.2	Vertical	<u>PASS</u>



LTE Band 4 20MHz BW, Mid Channel, 16QAM



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.61	-13.0	57.6	60.3	Horizontal	<u>PASS</u>
182.394	-73.88	-13.0	60.9	27.9	Horizontal	<u>PASS</u>
2127.182	-37.47	-13.0	24.5	-0.0	Horizontal	<u>PASS</u>
2900.249	-39.07	-13.0	26.1	145.7	Horizontal	<u>PASS</u>
3466.334	-49.97	-13.0	37.0	9.1	Horizontal	<u>PASS</u>
15718.204	-29.63	-13.0	16.6	360.0	Horizontal	<u>PASS</u>



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.54	-13.0	57.5	1.9	Vertical	<u>PASS</u>
932.269	-62.88	-13.0	49.9	47.6	Vertical	<u>PASS</u>
2122.195	-42.77	-13.0	29.8	108.8	Vertical	<u>PASS</u>
2845.387	-38.99	-13.0	26.0	291.8	Vertical	<u>PASS</u>
3466.334	-50.23	-13.0	37.2	301.2	Vertical	<u>PASS</u>
15760.599	-29.37	-13.0	16.4	244.7	Vertical	<u>PASS</u>

** END OF REPORT **