

Annex 1: Measurement diagrams to

TEST REPORT No.: 17-1-0105501T04a-C1

> According to: **FCC Regulations** Part 22, Part 24, Part 27

### **ISED-Regulations**

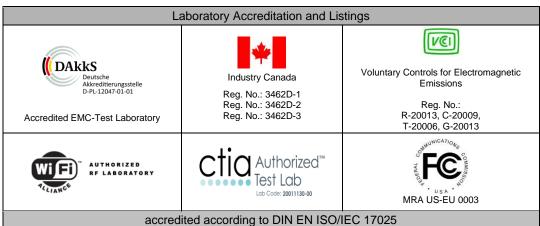
RSS-132 Issue 3, RSS-133 Issue 6, RSS-139 Issue 2, RSS-Gen Issue 4 RSS-130 Issue 1

for

## Daimler Trucks North America

7 620 000 296 66-10777-001

FCC: 2AKC8CTP10777001 ISED: 22221-CTP10777001 PMN: CTPMIDDTNA **HVIN: CTPMIDDTNA** FVIN: 17.02.S.016



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Laboratory Accreditation and Listings



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# 1. Measurement diagrams LTE-mode

## 1.1. Power conducted

## 1.1.1. Power conducted LTE-Band 2

LTE-Band 2				C	PSK-Modulati	on	16-Q	AM-Modulation	on				
channel bandwidth	ARFCN ch. no.	ARFCN- Frequency [MHz]	Resource block allocation	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	XSdO uoseinpo u⊸xe ui	max.modulation 16QAM	m.ax. bandwidth	absdiute max, value channels/bandwidfns
	18607	1850,7	1 RB low 1 RB high 50% RB mid 100% RB	26,951 26,948 26,876 26,562	21,4049 21,3479 21,3554 20,3519	5,5463 5,6 5,5204 6,21	26,4464 26,3421 26,8752 26,7958	20,5594 20,465 20,4369 19,4217	5,887 5,8771 6,4383 7,3741	21,405	20,559		
1.4 MHz	18900	1880	1 RB low 1 RB high 50% RB mid 100% RB	27,081 27,051 26,976 26,693	21,0383 21,2259 21,1337 20,0855	6,0429 5,8249 5,8422 6,607	26,4464 25,4955 26,9068 26,2919	20,5594 20,232 20,2057 19,1619	5,887 5,2635 6,7011 7,13	21,226	20,559	22,0912	
	19193	1909,3	1 RB low 1 RB high 50% RB mid 100% RB	27,429 27,279 27,246 27,368	21,9481 22,0912 21,9855 20,9676	5,481 5,1879 5,2607 6,4005	26,488 26,4106 27,3167 26,7085	21,0814 21,2161 21,2218 20,0147	5,4066 5,1945 6,0949 6,6938	22,091	21,222		
	18615	1851,5	1 RB low 1 RB high 50% RB mid 100% RB	26,617 26,605 26,212 26,303	21,3979 21,1839 20,2266 20,2753	5,2186 5,421 5,9855 6,0274	25,5314 25,3484 26,6057 26,8743	20,4411 20,176 20,3672 19,3141	5,0903 5,1724 6,2385 7,5602	21,398	20,441		
3 MHz	18900	1880	1 RB low 1 RB high 50% RB mid 100% RB	26,339 26,58 26,731 26,385	20,7658 21,2106 20,1789 20,1011	5,5733 5,3691 6,5525 6,2842	25,3796 25,7039 27,2138 26,259	19,8688 20,3756 20,1686 19,21	5,5108 5,3283 7,0452 7,049	21,211	20,376	22,1133	
	19185	1908,5	1 RB low 1 RB high 50% RB mid 100% RB	26,777 26,804 27,317 26,788	21,5272 22,1133 20,9498 20,9203	5,2493 4,6903 6,367 5,8681	27,3363 27,1379 26,8754 26,8058	21,2813 21,6988 21,0176 19,9291	6,055 5,4391 5,8578 6,8767	22,113	21,699		
	18625	1852,5	1 RB low 1 RB high 50% RB mid 100% RB	26,71 26,477 27,122 26,806	21,5388 21,0291 20,1814 20,2071	5,1712 5,4479 6,9409 6,5985	26,5182 26,1986 26,6248 27,4834	20,7604 20,2762 20,2924 19,2248	5,7578 5,9224 6,3324 8,2586	21,54	20,76		
5 MHz	18900	1880	1 RB low 1 RB high 50% RB mid 100% RB	26,612 26,953 27,194 26,435	21,0026 21,3673 20,1641 20,1328	5,6095 5,5859 7,0301 6,3026	26,644 26,8579 27,0917 27,1359	20,0528 20,3369 20,2809 19,2007	6,5912 6,521 6,8108 7,9352	21,367 20,33	20,337		- 22,2207
	19175	1907,5	1 RB low 1 RB high 50% RB mid 100% RB	27,223 27,23 27,369 27,325	21,0874 22,1228 20,763 20,7529	6,136 5,107 6,6063 6,5722	26,276 26,7329 27,3109 27,3242	20,1454 21,1664 20,7512 19,6265	6,1306 5,5665 6,5597 7,6977		21,166		
	18650	1855	1 RB low 1 RB high 50% RB mid 100% RB	26,729 26,201 26,215 26,247	21,4882 20,4087 19,8642 19,8822	5,2407 5,7921 6,3508 6,3649	25,6499 24,7399 26,7685 26,325	20,5687 19,4626 18,8616 18,9234	5,0812 5,2773 7,9069 7,4016	21,49	20,57		
10 MHz	18900	1880	1 RB low 1 RB high 50% RB mid 100% RB	26,656 26,654 26,785 26,873	21,2246 21,5062 20,1848 20,2877	5,4313 5,1478 6,6 6,5855	25,9412 26,0098 26,6576 27,1984	20,5443 20,7327 19,2725 19,2479	5,3969 5,2771 7,3851 7,9505	21,506	20,733	22,07	
	19150	1905	1 RB low 1 RB high 50% RB mid 100% RB	25,934 26,965 26,863 26,915	20,4754 22,0708 20,1681 20,2297	5,4589 4,8937 6,695 6,6857	26,6953 27,1935 26,4913 27,2288	20,1337 21,7402 19,0386 19,1435	6,5616 5,4533 7,4527 8,0853	22,07	21,74		
	18675	1857,5	1 RB low 1 RB high 50% RB mid 100% RB	26,547 25,532 26,78 26,875	21,4677 20,0241 19,5936 19,6827	5,0789 5,5079 7,1859 7,1927	25,6939 24,417 27,0312 26,2991	20,5772 19,0968 19,373 18,726	5,1167 5,3202 7,6582 7,5731	21,468	20,577		
15 MHz	18900	1880	1 RB low 1 RB high 50% RB mid 100% RB	26,274 26,403 27,168 27,442	20,8592 21,1773 20,1771 20,3147	5,4148 5,2253 6,9908 7,1274	25,8809 25,8875 27,3899 26,7281	20,5847 20,7184 20,1982 19,2413	5,2962 5,1691 7,1917 7,4868	21,177	20,718	22,0077	
	19125	1902,5	1 RB low 1 RB high 50% RB mid 100% RB	26,193 26,944 27,052 27,551	20,835 22,0077 19,766 20,0607	5,3576 4,9362 7,2859 7,49	26,7903 27,1852 26,8712 26,5292	20,5003 21,7692 19,6254 18,934	6,29 5,416 7,2458 7,5952	22,008	21,769		
	18700	1860	1 RB low 1 RB high 50% RB mid 100% RB	26,841 26,11 26,325 26,277	21,5881 20,2887 19,4404 19,6241	5,2527 5,8208 6,885 6,6533	27,044 26,5255 26,6161 26,6802	20,8983 19,6184 19,2278 18,6353	6,1457 6,9071 7,3883 8,0449	21,59	20,898	20,898	_
20 MHz	18900	1880	1 RB low 1 RB high 50% RB mid 100% RB	26,315 26,271 26,848 26,873	20,5771 20,6243 20,2828 20,2113	5,7381 5,6463 6,5653 6,6614	26,1265 26,0277 27,1417 26,8565	20,0869 20,0813 20,1969 19,1834	6,0396 5,9464 6,9448 7,6731	20,624		2	
	19100	1900	1 RB low 1 RB high 50% RB mid	26,316 27,177 26,807	20,6699 22,2207 19,7672	5,6458 4,9561 7,0393	26,0826 27,0237 26,4178	19,9609 21,4838 19,4853	6,1217 5,5399 6,9325	22,221			



## 1.1.2. Power conducted LTE-Band 4

Band 4					QPSK-Modulati		.5-0	AM -M odulati		QPSK	16-O.M								
channel bandwidth	ARFCN ch. no.	ARFCN- Frequency [MHz]	Resource block allocation	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	max-modulation	max.modualfon	max. chamel							
			1RB low	27,045	21,4539	5,5909	26,3712	20,4334	5,9378										
	19957	1710,7	1RB high	26,962 27,009	21,5035	5,4587	26,4014 26,9931	20,5603	5,8411	21,504	20,56								
			50%RB mid	26,971	20,4002	5,575	26,7565	19,4282	6,4863										
			100%RB	27,233	21,6737	6,5704	26,6266	20,7232	7,3283										
			1RB low	27,031	21,6178	5,5592	26,5248	20,7578	5,9034										
1.4 M Hz	20175	1732,5	1RB high 50%RB mid	27,177	21,6544	5,4133 5,5228	27,1968	20,752	5,767 6,4448	21,674	20,758	21,6737							
			100%RB	26,877	20,629	6,2478	26,9473	19,683	7,2643										
			1RB low	26,465	20,7939	5,6708	25,8556	19,9193	5,9363										
			1RB high	26,533	20,856	5,6774	25,8638	19,9458	5,918										
	20393	1754,3	50%RB mid	26,497	20,7566	5,7399	26,5241	19,963	6,5611	20,856	19,963								
			100%RB	26,395	19,8545	6,5408	25,7696	18,6784	7,0912										
			1RB low	26,524	21,3984	5,1259	27,0072	21,076	5,9312										
	19965	1711,5	1RB high	26,45	21,4444	5,0054	26,9362	21,1238	5,8124	21,444	21,124								
	15500	11 11,5	50%RB mid	27,091	20,4476	6,6435	26,4668	20,5865	5,8803	2,,	2,124								
			100%RB	26,724	20,4428	6,2813	26,5978	19,4978	7,1										
			1RB low	26,632	21,5527	5,0795	27,1727	21,2275	5,9452										
3 MHz	20175	1732.5	1RB high	26,637	21,6312	5,0053	27,1478	21,3053	5,8425	21.631	21305	21.6312							
		. ,,	50%RB mid	27,305	20,6714	6,6337	26,6935	20,8043	5,8892	, , ,	,	,							
			100%RB	27,289	20,6366	6,652	27,0681	19,718	7,3501										
			1RB low	25,83	20,6732	5,1571	26,4093	20,4419	5,9674										
	20385	1753,5	1RB high	25,972	20,7963	5,1753	26,5739	20,5621	6,0118	20,796	20,562								
			50%RB mid	26,608	19,88	6,7282	25,8765	19,9382	5,9383										
			100%RB	26,382	19,8151	6,5668	25,4002	18,7128	6,6874				1						
			1RB low	27,282	21,4913	5,7902	26,3688	20,5056	5,8632										
	19975	1712,5	1RB high	27,086	21,4891	5,5966	26,213	20,5144	5,6986	21,491	20,514								
			50%RB mid	26,915	20,4626	6,4524	26,9016	20,4922	6,4094										
			100%RB	26,916	20,4692	6,4469	26,5568	19,504	7,0528										
			1RB low	27,41	21,6049	5,805	26,4932	20,6265	3,0007	3,0007									
5 M Hz	20175	1732,5	1RB high	27,552	21,8185	5,7334	26,5816	20,8279	5,7537	21,819	20,828	21,8185							
			50%RB mid	27,316 27,151	20,6797	6,636	27,119	20,7225 19.7142	6,3965										
			100%RB	26,623	20,6734	6,4772	25,7402	19,7142	7,5541										
			1RB low	26,863	20,831	5,7919	25,7856	19,9406	2 58024	20,887	20,887				-	-			
	20375	1752,5	1RB high	26,785	19,849	5,9755	26,3894	19,874	.,			19,983							
			50%RB mid	26,331	19,8345	6,9359	26,2775	18,7052	6,5154			1							
			100%RB	26,583	21,4951	6,4968	27,0688	21,1453	7,5723	21,495			22						
			1RB low	26,373	21,4331	5,0874	26.8247	20,939	5,9235		21,495	21,495							
	20000	1715	1RB high	26,851	20,4665	5,1025	26,5324	19,5562	5,8857				21,495	21,145					
			50%RB mid 100%RB	26,893	20,449	6,3847 6,4438	27,1034	19,4547	6,9762										
			1RB low	26,808	21,3578	5,4502	27,0689	21,0125	7,6487 6,0564				1						
			1RB high	27,226	22,0354	5,4902	27,4559	21,6435	5,8124										
10 M Hz	20175	1732,5	50%RB mid	27,051	20,7063	6.3445	26,8112	19,7911	7.0201	22,04	21,644	22,04							
			100%RB	27,081	20,7171	6,3636	27,5415	19,7289	7,8126										
			1RB low	26,25	21,3142	4,9354	26,6558	20,9828	5.673										
			1RB high	26,098	20,8641	5,2343	26,667	20,599	6.068										
	20350	1750	50%RB mid	26,365	19,93	6,4343	25,8964	18,8689	7,0275	21,31	20,983								
			100%RB	26,505	20,0461	6,4589	26,5846	18,8912	7,6934	1	ĺ		Ì						
			1RB low	26,588	21,4792	5,1086	27,0955	21,1903	5,9052	1	İ		1						
	06		1RB high	26,352	21,1858	5,1658	26,8798	20,8788	6,001	1			1						
	20025	1717,5	50%RB mid	26,927	20,3555	6,5711	26,8546	20,3463	6,5083	21,479	21,19		Ì						
			100%RB	27,424	20,3824	7,0415	26,8601	19,4243	7,4358	]	ĺ		1						
			1RB low	26,494	21,3104	5,1836	25,6418	20,441	5,2008										
15 M Hz	20175	1732.5	1RB high	26,895	21,9609	4,9343	27,3355	21,6191	5,7164	21.961	21.619	219609							
DMIL	201/5	1132,5	50%RB mid	27,374	20,7185	6,6553	27,2721	20,7436	6,5285	21,901	2,019	2 1,0009							
			100%RB	27,623	20,7053	6,9174	27,2389	19,7646	7,4743	L	L_								
			1RB low	26,635	21,7151	4,9203	27,1134	21,4359	5,6775										
	20325	1747.5	1RB high	26,062	20,8074	5,2545	25,2268	20,0139	5,2129	21,715	21,436								
		,.	50%RB mid	26,654	20,2346	6,4193	26,5687	20,2068	6,3619		_ ,400								
			100%RB	27,219	20,279	6,9398	26,4068	19,1067	7,3001				]						
			1RB low	26,931	21,7496	5,1814	26,8349	21,0201	5,8148										
	20050	1720	1RB high	27,069	21,6991	5,3703	26,8964	20,9726	5,9238	21,75	21,02								
			50%RB mid	26,755	20,3275	6,4278	26,6933	20,3105	6,3828	""			1						
			100%RB	26,974	20,425	6,5492	27,4553	19,4508	8,0045	<u></u>	<u> </u>		Ì						
			1RB low	26,688	21,4371	5,251	26,5627	20,7244	5,8383				Ì						
		1732.5	1RB high	26,992	21,9329	5,0591	26,8277	21,207	5,6207	21,933	21,984	22,2175	Ì						
20 MH <del>&gt;</del>	20175	0,40		27,283	20,772	6,5105	27,1446	20,7643	6,3803	_ 1,000	_ ,504	,-113	175						
20 MHz	20175		50%RB mid																
20 MHz	20175		50%RB mid 100%RB	27,257	20,7327	6,5241	25,2052	21,9841	3,2211	$\vdash$									
20 MHz	20175			27,257 27,293	20,7327	6,5241 5,0756	25,2052 27,1594	21,9841 21,5225	3,2211 5,6369										
20 MHz	H	574.5	100%RB							99.940	24500								
20 MHz	20175	1745	100%RB 1RB low	27,293	22,2175	5,0756	27,1594	21,5225	5,6369	22,218	21,523								



## 1.1.3. Power conducted LTE-Band 5

1.1.3. Power con LTE-Band 5				(	QPSK-M odulati	on	16-Q	AM -M odulati	on		-		
channel bandwidth	ARFCN ch. no.	ARFCN- Frequency [MHz]	Resource block allocation	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	max- modulation QPSK	max. modulation 16-QAM	max. channel	absolute max. value
			1RB low	27,338	21,6406	5,6975	26,2249	20,8048	5,4201				
	20407		1RB high	27,279	21,8805	5,3983	26,7237	20,9211	5,8026				
		824.7	50%RB mid	27,295	21,7124	5,5824	27,2901	20,8365	6,4536	21,88	20,92		
			100%RB	27,229	20,6629	6,5662	26,9533	19,6523	7,301				
			1RB low	27,15	21,1697	5,9798	26,4225	20,2026	6,2199				
			1RB high	27,206	21,1701	6,0361	26,4194	20,21	6,2094				
1.4 M Hz	20525	836.5	50%RB mid	27,12	21,0656	6,0498	27,1179	20,201	6,9169	21,17	20,21	21,88	
			100%RB	26,581	20,081	6,5	26,5774	19,0747	7,5027				
			1RB low	26,369	21,8736	4,4956	26,0225	20,9485	5,074				
			1RB high	26,282	21,7141	4,5678	25,9433	20,8478	5,0955				
	20643	848.3		26,333	21,7375	4,5955	26,2926	20,9064	5,3862	21,87	20,95		
			50%RB mid	26,513	20,7948	5,7186	26.3767	19,8417	6,535				
			100%RB	26,733	21,4895	5,2439	27,369	21,2341	6,1349				
			1RB low	26,773	-			- 1					
	20415	825.5	1RB high		22,1051	4,668	27,1669	21,8095	5,3574	22,11	21,81		
			50%RB mid	27,325	20,9291	6,3957	26,7128	21,0584	5,6544				
			100%RB	27,359	20,8772	6,4819	26,9998	19,881	7,1188			22,11	
			1RB low	26,479	21,158	5,3212	27,0685	20,8627	6,2058				
3 M Hz	20525	836.5	1RB high	26,57	21,1092	5,4606	27,4139	20,8362	6,5777	21,16	20,86		
			50%RB mid	27,306	20,093	7,2125	26,4626	20,229	6,2336				
			100%RB	26,628	20,1136	6,5146	26,7217	19,0853	7,6364				
			1RB low	26,315	21,9303	4,3847	26,74	21,5848	5,1552				
	20635	847.5	1RB high	26,007	21,7285	4,2782	26,3487	21,3377	5,011	21,93	21,58		
			50%RB mid	26,433	20,9362	5,4972	26,0578	20,9919	5,0659		- ,,,,		
			100%RB	26,614	20,9547	5,6597	26,2476	19,9947	6,2529				22,24
			1RB low	27,7	21,6996	6,0007	26,6709	20,7133	5,9576				,_
	20425	826.5	1RB high	27,063	22,2385	4,8248	26,4901	21,2713	5,2188	22,24	21,27		
	20420	020.0	50%RB mid	27,387	21,0963	6,2907	26,9832	21,2051	5,7781	22,24	2 1,21		
			100%RB	27,136	21,1031	6,0328	27,4316	20,0519	7,3797				
			1RB low	27,138	21,3532	5,7849	26,3066	20,3884	5,9182				
			1RB high	27,794	21,14	6,6541	26,3047	20,1718	6,1329				
5 M Hz	20525	836.5	50%RB mid	27,392	20,1274	7,2646	27,2538	20,168	7,0858	21,35	20,39	22,24	
			100%RB	26,846	20,1309	6,7151	27,0296	19,1245	7,9051				
			1RB low	27,389	21,8452	5,544	26,5132	20,8959	5,6173				
			1RB high	26,522	21,7502	4,7713	25,9131	20,809	5,1041				
	20625	846.5	50%RB mid	26,881	21,0302	5,8504	26,6123	21,0886	5,5237	21,85	21,09		
			100%RB	26,971	21,0241	5,947	26,5859	19,9773	6,6086				
			1RB low	26,843	21,7001	5,143	27,4407	21,365	6,0757				
			1RB high	26,512	21,5388	4,9727	26,8928	21,2116	5,6812				
	20450	829	50%RB mid	26,707	21,1757	5,5317	26,5704	20,2538	6,3166	21,70	21,37		
			100%RB	27,194	21,0607	6,1332	27,5001	20,0339	7,4662				
					21,7693	4,6328	26,7598	21,3964	5,3634	<b>-</b>			
			1RB low	26,402	21,7693	5,5188	27,7285	21,0375	6,691				
10 M Hz 20 9	20525	836.5	1RB high	26,994	20,1484	6,8452	26,6523	19,2082	7,4441	21,77	21,40	21,85	
			50%RB mid		-		-						
			100%RB	27,122	20,3073	6,8151	26,4641	19,237	7,2271				
			1RB low	26,71	21,2089	5,5008	27,635	20,9156	6,7194				
20600	20600		1RB high	26,246	21,8492	4,3964	26,4358	21,4532	4,9826	21,85	21,45		
	20600		50%RB mid	26,988	20,9125	6,0757	26,795	19,8854	6,9096		21,85 21,45		
			100%RB	27,026	20,825	6,2011	27,4849	19,7934	7,6915				



## 1.1.4. Power conducted LTE-Band 7

.1.4. Power cond TE-Band 7				(	QPSK-Modulati	on	16-Q	AM-Modulati	on	QPS	116-Q		value		
channel bandwidth	ARFCN ch. no.	ARFCN- Frequency [MHz]	Resource block allocation	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	max- modulation QPS	max. modulation 16-Q	max. channel	absolute max. v?		
			1RB low	25,31	19,1304	6,18	23,814	18,1916	5,6224						
	20775	2502,5	1RB high	25,136	19,1089	6,0272	23,9762	18,3783	5,5979	19,13	18,378				
	20770		50%RB mid	25,163	18,1577	7,0052	24,965	18,2582	6,7068	19,15	10,570				
			100%RB	24,554	18,2072	6,3471	24,634	17,2534	7,3806						
			1RB low	24,89	20,5637	4,3267	24,4315	19,6922	4,7393						
E M LI <del>-</del>	21100	2535	1RB high	25,007	20,1024	4,9044	24,4209	19,1796	5,2413	20 564	10.602	2472			
5 M Hz	21100	2535	50%RB mid	25,141	19,3885	5,7521	24,683	19,5027	5,1803	20,564	19,692	21,73			
			100%RB	25,114	19,3859	5,7282	25,3437	18,6039	6,7398						
			1RB low	26,417	21,6235	4,7931	25,8519	20,7767	5,0752						
			1RB high	26,22	21,7348	4,4853	25,7912	20,8986	4,8926						
	21425	2567,5	50%RB mid	26,647	20,8834	5,7636	26,2341	20,966	5,2681	21,735	20,966				
			100%RB	26,245	20,568	5,677	26,7405	20,1103	6,6302						
			1RB low	24,169	19,0268	5,1426	24,8593	19,135	5,7243						
			1RB high	24,403	19,5035	4,8994	25,2336	19,362	5,8716						
	20800	2505	50%RB mid	24,715	18,2393	6,476	24,4424	17,4047	7,0377	19,504	19,362				
			100%RB	25,014	18,2913	6,7225	25,147	17,4056	7,7414						
				24,565	20,7785		24,7328	20,4163							
			1RB low	24,543	19,7083	3,786	24,9225	19,4464	4,3165						
10 M Hz	21000	0 2535	1RB high	24,989	19,4483	4,8343	24,6332	18,6779	5,4761	20,779	20,416	21,67			
			50%RB mid	25,359	19,4841	5,541	25,5765	18,6893	5,9553						
			100%RB			5,8745			6,8872						
		21400 2565	1RB low	25,528	20,609	4,9193	26,2116	20,4391	5,7725						
	21400		1RB high	25,915	21,6712	4,244	26,1239	21,381	4,7429	21,671	21,381				
	21100		50%RB mid	26,447	20,6189	5,828	26,1491	19,9041	6,245				21,81		
			100%RB	26,59	20,5269	6,0631	27,0062	19,7535	7,2527						
			1RB low	24,297	19,0816	5,2158	24,9709	18,8252	6,1457		-[				·
	20825	2507,5	1RB high	25,097	20,3541	4,7427	25,5797	20,1002	5,4795	20,354	20,1				
		,,,	50%RB mid	25,031	18,5908	6,4402	25,5029	18,5569	6,946						
			100%RB	25,579	18,7206	6,8579	25,0403	17,7004	7,3399						
			1RB low	25,234	20,9506	4,283	25,5513	20,5561	4,9952						
15 M Hz	21100	2535	1RB high	24,628	20,717	3,911	24,7803	20,3223	4,458	20.051	20,556	21,67			
IS IN FIZ	21100	2555	50%RB mid	24,991	20,2635	4,7271	25,161	20,2654	4,8956	20,931	20,550	21,07			
			100%RB	26,092	20,1927	5,8988	25,6771	19,3914	6,2857						
			1RB low	25,058	20,0115	5,0464	25,6411	19,6902	5,9509						
			1RB high	25,876	21,6711	4,2046	26,117	21,332	4,785						
	21375	2562,5	50%RB mid	26,295	20,3303	5,9644	26,52	20,3479	6,1721	21,671	21,332				
			100%RB	25,856	20,568	5,288	26,405	19,2824	7,1226						
			1RB low	24,528	19,3205	5,2075	24,3695	18,6488	5,7207						
			1RB high	25,393	21,1128	4,28	25,2404	20,4334	4,807						
	20850	2510	50%RB mid	25,442	18,9496	6,4919	25,6396	18,8759	6,7637	21,113	20,433				
			100%RB				-		8,0606						
				25,401	19,0048	6,3961	26,2309	18,1703							
			1RB low	25,514	20,9285	4,5857	25,292	20,2642	5,0278						
20 MHz	21100	2535	1RB high	24,735	20,5542	4,1808	24,6088	19,8842	4,7246	20,929	20,306	21,81			
			50%RB mid	25,193	20,297	4,8962	25,1605	20,3057	4,8548						
			100%RB	25,824	20,1387	5,6852	26,2247	19,3446	6,8801						
			1RB low	25,046	19,4518	5,5946	24,8269	18,8482	5,9787						
	21300	21300 2555	1RB high	26,114	21,8109	4,3028	26,0749	21,2708	4,8041	21,811	,811 21,271				
21			50%RB mid	26,128	19,8047	6,3236	26,4861	19,8539	6,6322						
			100%RB	26,197	19,9056	6,2918	26,8748	19,0159	7,8589						



## 1.1.5. Power conducted LTE-Band 17

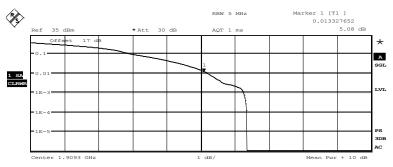
Band 17				C	QPSK-Modulati	on	16-Q	AM-Modulati	on	modulati	modulatic	channel	max.
channel bandwidth	ARFCN ch. no.	ARFCN- Frequency [MHz]	Resource block allocation	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	Peak detektor [dBm]	RMS detektor [dBm]	PAR Faktor [dB]	тах- то	тах. тос	max. cha	absolute max. value
			1RB low	27,726	22,0732	5,6527	26,8844	21,0836	5,801				
	23755	706,5	1RB high	27,713	22,3069	5,4064	26,9551	21,2971	5,658	22,307	21,297		
	23733	700,5	50%RB mid	27,7	21,2113	6,4886	27,3303	21,2884	6,042	22,307	21,237		
			100%RB	27,532	21,1813	6,3504	27,4538	20,1825	7,271				
			1RB low	27,582	22,2551	5,327	26,851	21,2344	5,617				
5 M Hz	23790	710	1RB high	28,148	21,5688	6,5789	26,6385	20,5685	6,07	22,255	21,234	22,31	
310112	23790	710	50%RB mid	27,5	21,0195	6,4803	27,7442	21,0449	6,699	22,233	21,234	22,51	
23825			100%RB	27,354	20,9976	6,356	27,219	19,9816	7,237				
			1RB low	28,209	21,8198	6,389	26,7921	20,7959	5,996				
	23825	25 713,5	1RB high	27,952	21,873	6,079	26,9238	20,9546	5,969	21,873	20,955		_ 22,42
	23023		50%RB mid	27,571	20,5736	6,9974	27,8513	20,5686	7,283	21,073	20,330		
			100%RB	27,218	20,6491	6,5684	27,2954	19,6095	7,686				
			1RB low	27,144	22,1262	5,0178	27,5746	21,6843	5,89		21,684		
	23780	709	1RB high	27,209	21,7171	5,4915	28,0042	21,3114	6,693	22,126			
	23780		50%RB mid	27,427	21,1515	6,2759	27,1619	20,1873	6,975	22,120	21,004		
			100%RB	27,49	21,0113	6,479	27,9039	20,0023	7,902				
			1RB low	27,196	22,3767	4,8189	27,4728	21,9071	5,566				
40 M 🗠	23790	710	1RB high	27,192	21,7265	5,4655	28,0059	21,3309	6,675	22,377	21,907	22,42	
10 M Hz 2	23790	710	50%RB mid	27,413	21,0098	6,4036	27,304	20,0655	7,239	22,377	21,907	22,42	
			100%RB	27,501	21,0083	6,4922	27,9559	19,9594	7,997				
			1RB low	27,146	22,4247	4,7217	27,4247	21,9594	5,465				
	23800	711	1RB high	27,631	21,9158	5,7151	27,977	21,6641	6,313	22,425	21,959		
	23600	711	50%RB mid	27,555	20,8767	6,6787	27,2518	19,881	7,371	22,425	21,303		
			100%RB	27,188	20,974	6,2138	27,8926	19,9097	7,983				



## 1.2. PAPR-Value (CCDF plots)

## 1.2.1. LTE Band 2

Worst-Case of each maximum Peak power value was tested with the CCDF method 1.2.1.1. 1.4MHz signal bandwidth



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.50 dBm
Peak 27.85 dBm
Crest 6.35 dB

10 % 3.04 dB
1 % 5.21 dB
.1 % 6.25 dB
.01 % 6.35 dB

Date: 21.SEP.2017 12:44:17

### Diagram: QPSK 1.4 MHz CH19193, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.34 dBm
Peak 27.85 dBm
Crest 6.51 dB

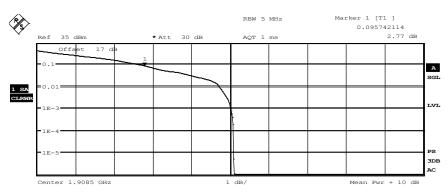
10 % 3.01 dB
1 % 5.43 dB
.1 % 6.36 dB
.01 % 6.46 dB

Date: 21.SEP.2017 12:49:40

Diagram: 16 QAM 1.4 MHz CH19193, 50% RB



#### 1.2.1.2. 3MHz signal bandwidth



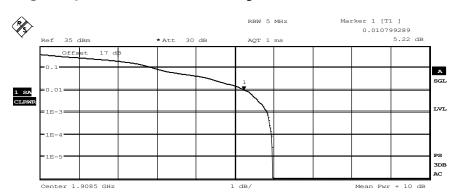
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.48 dBm
Peak 27.57 dBm
Crest 5.09 dB

10 % 2.72 dB
1 % 4.73 dB
.1 % 5.02 dB
.01 % 5.10 dB

Date: 21.SEP.2017 13:16:27

## Diagram: QPSK 3 MHz CH19185, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.61 dBm
Peak 27.57 dBm
Crest 5.96 dB

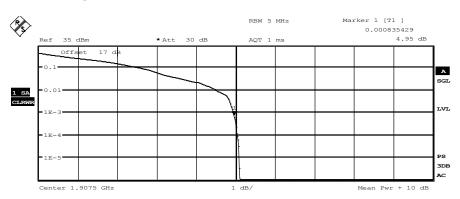
10 % 2.93 dB
1 % 5.27 dB
.1 % 5.83 dB
.01 % 5.95 dB

Date: 21.SEP.2017 13:17:56

Diagram: 16 QAM 3 MHz CH19185, 1 RB high



#### 1.2.1.3. 5MHz signal bandwidth

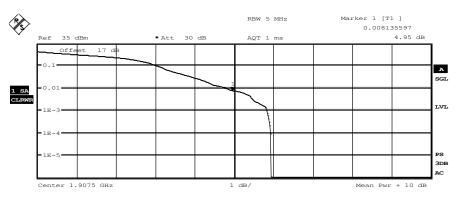


Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1

Date: 21.SEP.2017 13:20:28

## Diagram: QPSK 5 MHz CH19175, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.28 dBm
Peak 27.21 dBm
Crest 5.93 dB

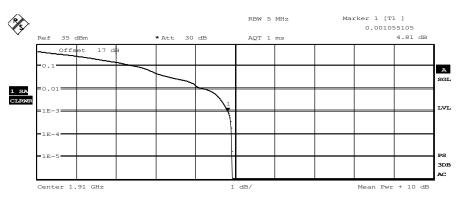
10 % 3.06 dB
1 % 4.82 dB
.1 % 5.83 dB
.01 % 5.93 dB

Date: 21.SEP.2017 13:21:16

Diagram: 16 QAM 5 MHz CH19175, 1 RB high



#### 1.2.1.4. 10MHz signal bandwidth



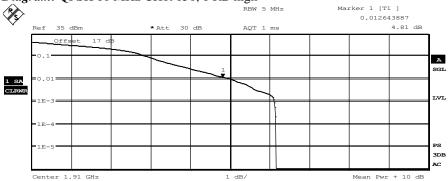
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 22.65 dBm
Peak 27.57 dBm
Crest 4.91 dB

10 % 2.55 dB
1 % 4.25 dB
.1 % 4.81 dB
.01 % 4.92 dB

Date: 21.SEP.2017 13:34:38

## Diagram: QPSK 10 MHz CH19150, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.62 dBm
Peak 27.78 dBm
Crest 6.15 dB

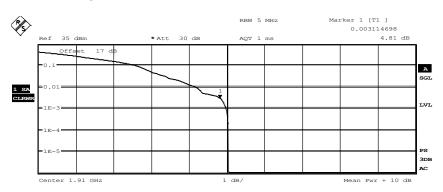
10 % 2.92 dB
1 % 5.02 dB
.1 % 6.12 dB
.01 % 6.17 dB

Date: 21.SEP.2017 13:35:58

Diagram: 16 QAM 10 MHz CH19150, 1 RB high



#### 1.2.1.5. 15MHz signal bandwidth



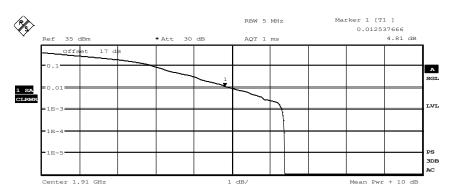
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.67 dBm
Peak 27.71 dBm
Crest 5.04 dB

10 % 2.61 dB
1 % 4.18 dB
.1 % 4.97 dB
.01 % 5.05 dB

Date: 21.SEP.2017 13:38:11

#### Diagram: QPSK 15 MHz CH19125, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.48 dBm
Peak 27.85 dBm
Crest 6.37 dB

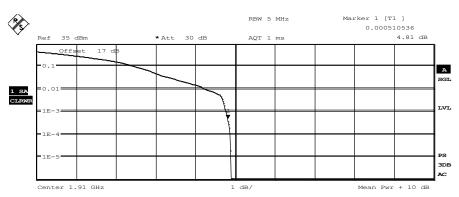
10 % 2.96 dB
1 % 5.02 dB
.1 % 6.31 dB
.01 % 6.38 dB

Date: 21.SEP.2017 13:39:02

Diagram: 16 QAM 15 MHz CH19125, 1 RB high



#### 1.2.1.6. 20MHz signal bandwidth



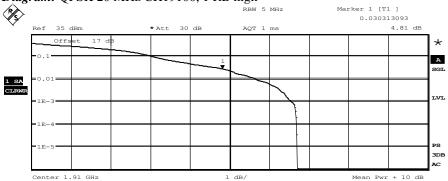
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 20.99 dBm
Peak 25.87 dBm
Crest 4.88 dB

10 % 2.47 dB
1 % 4.23 dB
.1 % 4.76 dB
.01 % 4.87 dB

Date: 21.SEP.2017 13:40:38

## Diagram: QPSK 20 MHz CH19100, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
19.96 dBm
Peak 26.65 dBm
Crest 6.69 dB

10 % 3.11 dB
1 % 5.67 dB
.1 % 6.55 dB
.01 % 6.70 dB

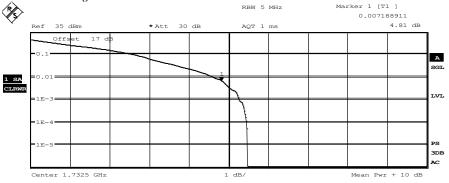
Date: 21.SEP.2017 13:41:28

Diagram: 16 QAM 20 MHz CH19100, 1 RB high



#### 1.2.2. LTE Band 4

Worst-Case of each maximum Peak power value was tested with the CCDF method 1.2.2.1. 1.4MHz signal bandwidth



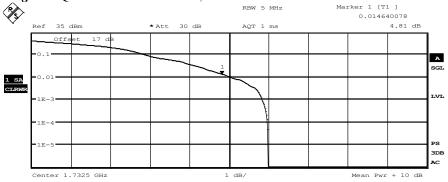
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 22.24 dBm
Peak 27.71 dBm
Crest 5.47 dB

10 % 2.63 dB
1 % 4.62 dB
.1 % 5.26 dB
.01 % 5.45 dB

Date: 21.SEP.2017 13:44:51

### Diagram: QPSK 1.4 MHz CH20175, 1 RB low



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.38 dBm
Peak 27.36 dBm
Crest 5.98 dB

10 % 2.90 dB
1 % 5.06 dB
.1 % 5.83 dB

Date: 21.SEP.2017 13:46:06

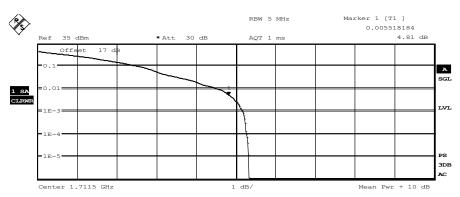
.01 %

Diagram: 16 QAM 1.4 MHz CH20175, 1 RB high

5.96 dB



#### 1.2.2.2. 3MHz signal bandwidth



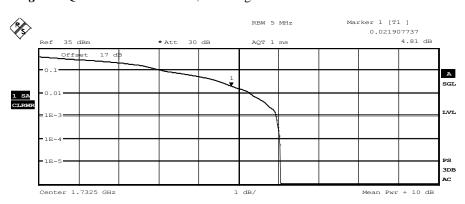
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.90 dBm
Peak 27.21 dBm
Crest 5.32 dB

10 % 2.58 dB
1 % 4.54 dB
.1 % 5.16 dB
.01 % 5.27 dB

Date: 21.SEP.2017 13:48:05

## Diagram: QPSK 3 MHz CH19965, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.17 dBm
Peak 27.21 dBm
Crest 6.04 dB

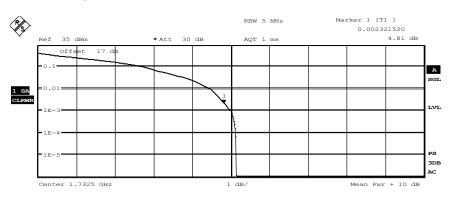
10 % 3.16 dB
1 % 5.29 dB
.1 % 5.95 dB
.01 % 6.03 dB

Date: 21.SEP.2017 13:50:28

Diagram: 16 QAM 3 MHz CH20175, 1 RB high



#### 1.2.2.3. 5MHz signal bandwidth



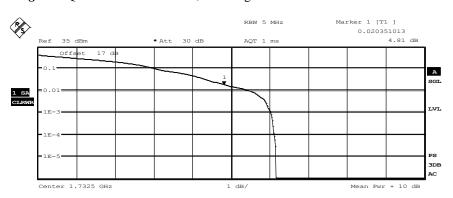
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.15 dBm
Peak 27.28 dBm
Crest 5.13 dB

10 % 2.77 dB
1 % 4.47 dB
.1 % 5.00 dB
.01 % 5.13 dB

Date: 21.SEP.2017 13:57:04

## Diagram: QPSK 5 MHz CH20175, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 20.98 dBm
Peak 27.14 dBm
Crest 6.16 dB

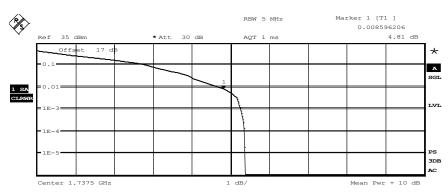
10 % 3.06 dB
1 % 5.48 dB
.1 % 6.03 dB
.01 % 6.11 dB

Date: 21.SEP.2017 13:58:03

Diagram: 16 QAM 5 MHz CH20175, 1 RB high



#### 1.2.2.4. 10MHz signal bandwidth



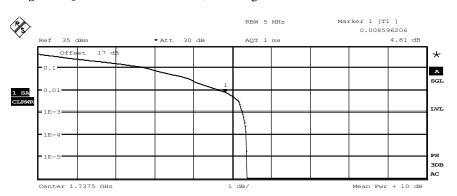
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.49 dBm
Peak 27.85 dBm
Crest 5.36 dB

10 % 2.84 dB
1 % 4.70 dB
.1 % 5.26 dB
.01 % 5.35 dB

Date: 21.SEP.2017 14:00:54

## Diagram: QPSK 10 MHz CH20175, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.49 dBm
Peak 27.85 dBm
Crest 5.36 dB

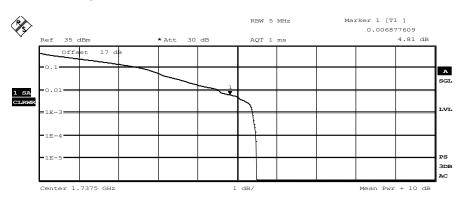
10 % 2.84 dB
1 % 4.70 dB
.1 % 5.26 dB
.01 % 5.35 dB

Date: 21.SEP.2017 14:01:39

Diagram: 16 QAM 10 MHz CH20175, 1 RB high



#### 1.2.2.5. 15MHz signal bandwidth



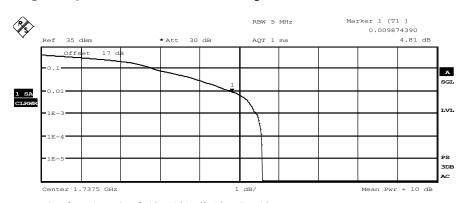
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.51 dBm
Peak 27.99 dBm
Crest 5.48 dB

10 % 2.60 dB
1 % 4.52 dB
.1 % 5.38 dB
.01 % 5.46 dB

Date: 21.SEP.2017 14:03:00

### Diagram: QPSK 15 MHz CH20175, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.78 dBm
Peak 27.36 dBm
Crest 5.58 dB

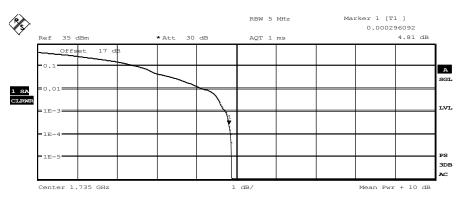
10 % 2.85 dB
1 % 4.81 dB
.1 % 5.43 dB
.01 % 5.56 dB

Date: 21.SEP.2017 14:03:46

Diagram: 16 QAM 15 MHz CH20175, 1 RB high



#### 1.2.2.6. 20MHz signal bandwidth



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

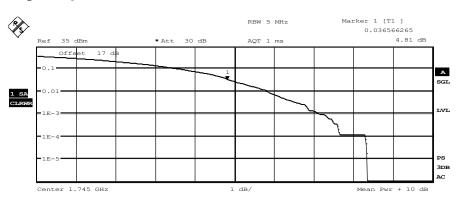
Trace 1

Mean 22.83 dBm Peak 27.71 dBm Crest 4.88 dB

10 % 2.53 dB 1 % 4.17 dB .1 % 4.71 dB .01 % 4.86 dB

Date: 21.SEP.2017 14:06:23

### Diagram: QPSK 20 MHz CH20300, 1 RB low



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 16.47 dBm
Peak 24.82 dBm
Crest 8.35 dB

10 % 3.67 dB
1 % 5.83 dB
.1 % 7.23 dB
.01 % 8.30 dB

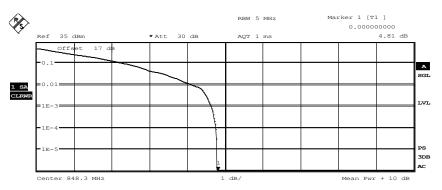
Date: 21.SEP.2017 14:08:34

*Diagram:* 16 QAM 20 MHz CH20175, 100% RB



### 1.2.3. LTE Band 5

Worst-Case of each maximum Peak power value was tested with the CCDF method 1.2.3.1. 1.4MHz signal bandwidth



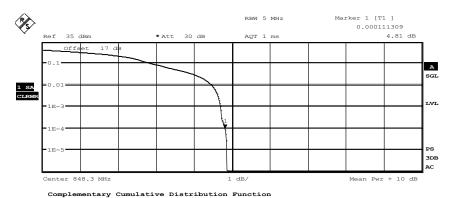
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.37 dBm
Peak 27.14 dBm
Crest 4.78 dB

10 % 2.36 dB
1 % 4.13 dB
.1 % 4.63 dB
.01 % 4.76 dB

Date: 22.SEP.2017 09:35:48

#### Diagram: QPSK 1.4 MHz CH20643, 1 RB low



NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.50 dBm
Peak 26.37 dBm
Crest 4.86 dB

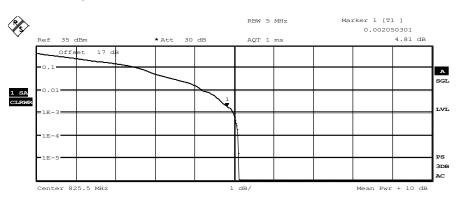
10 % 2.92 dB
1 % 4.46 dB
.1 % 4.70 dB
.01 % 4.81 dB

Date: 22.SEP.2017 09:38:22

Diagram: 16 QAM 1.4 MHz CH20643, 1 RB low



#### 1.2.3.2. 3MHz signal bandwidth

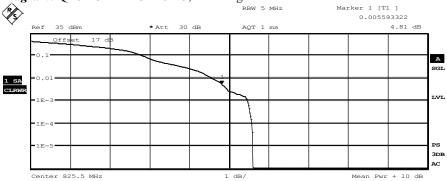


Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1

Date: 22.SEP.2017 09:40:27

### Diagram: QPSK 3 MHz CH20415, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 21.83 dBm
Peak 27.43 dBm
Crest 5.59 dB

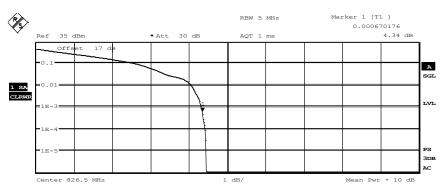
10 % 2.84 dB
1 % 4.58 dB
.1 % 5.46 dB
.01 % 5.58 dB

Date: 22.SEP.2017 09:41:39

Diagram: 16 QAM 3 MHz CH20415, 1 RB high



#### 1.2.3.3. 5MHz signal bandwidth



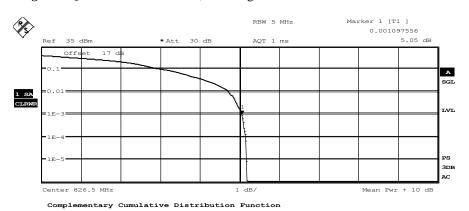
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.56 dBm
Peak 27.00 dBm
Crest 4.44 dB

10 % 2.61 dB
1 % 4.04 dB
.1 % 4.31 dB
.01 % 4.42 dB

Date: 22.SEP.2017 09:43:13

## Diagram: QPSK 5 MHz CH20425, 1 RB high



NOF samples: 8000, Usable BW: 7.1MHz

Trace 1

Mean 21.76 dBm Peak 26.93 dBm Crest 5.17 dB 

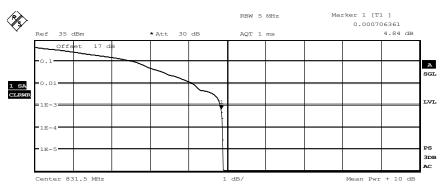
10 % 3.11 dB 
1 % 4.71 dB 
.1 % 5.05 dB 
.01 % 5.14 dB

Date: 22.SEP.2017 09:44:34

Diagram: 16 QAM 5 MHz CH20425, 1 RB high



#### 1.2.3.4. 10MHz signal bandwidth



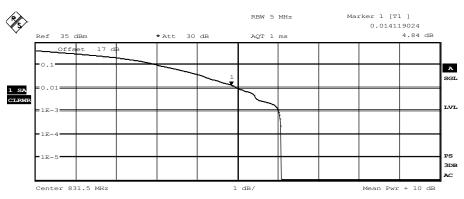
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.40 dBm
Peak 27.28 dBm
Crest 4.88 dB

10 % 2.61 dB
1 % 4.10 dB
.1 % 4.82 dB
.01 % 4.89 dB

Date: 22.SEP.2017 09:47:08

## Diagram: QPSK 10 MHz CH20525, 1 RB low



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 21.35 dBm
Peak 27.43 dBm
Crest 6.08 dB

10 % 3.06 dB
1 % 5.00 dB
.1 % 6.01 dB
.01 % 6.09 dB

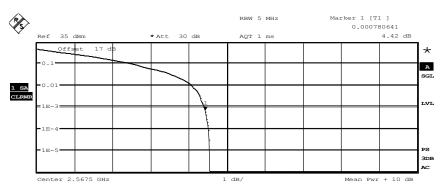
Date: 22.SEP.2017 09:48:04

Diagram: 16 QAM 10 MHz CH20525, 1 RB low



## 1.2.4. LTE Band 7

#### 1.2.4.1. 5MHz signal bandwidth

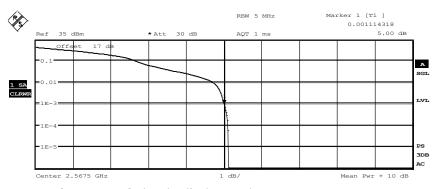


Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

	Trace I
Mean	22.04 dBm
Peak	26.58 dBm
Crest	4.54 dB
10 %	2.53 dB
1 %	4.05 dB
.1 %	4.41 dB
.01 %	4.52 dB

Date: 22.SEP.2017 09:53:58

## Diagram: QPSK 5 MHz CH21425, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

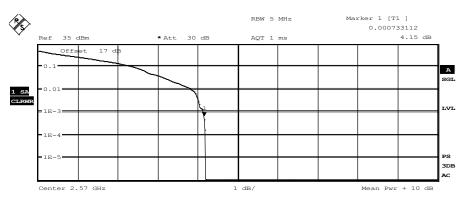
Mean Peak Crest	Trace 21.18 26.30 5.11	dBm dBm
10 %	2.69	dВ
1 %	4.71	dB
.1 %	5.02	dВ
∩1 %	5 11	dВ

Date: 22.SEP.2017 09:55:21

*Diagram:* 16 QAM 5 MHz CH21425, 50% RB



#### 1.2.4.2. 10MHz signal bandwidth

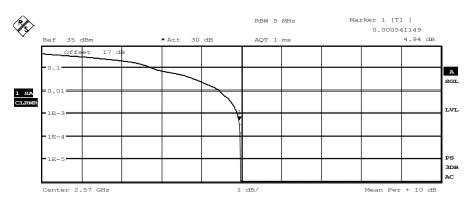


Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

		Trace	∋ ⊥
Mear	1	22.32	dBm
Peak	2	26.51	dBm
Cres	st	4.19	dВ
10	용	2.39	dВ
1	응	3.83	dВ
. 1	용	4.13	dВ
.01	응	4.18	dВ

Date: 22.SEP.2017 10:15:45

## Diagram: QPSK 10 MHz CH21400, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

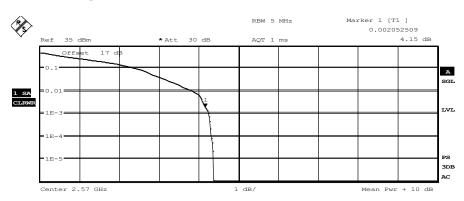
Mean Peak Crest	Trace 21.40 26.37 4.97	dBm dBm
10 % 1 % .1 %	2.80 4.46 4.90 4.97	dВ

Date: 22.SEP.2017 10:14:24

Diagram: 16 QAM 10 MHz CH21400, 1 RB high



#### 1.2.4.3. 15MHz signal bandwidth



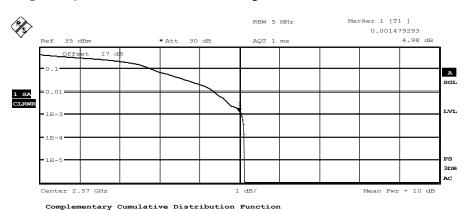
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 22.29 dBm
Peak 26.65 dBm
Crest 4.36 dB

10 % 2.42 dB
1 % 3.83 dB
.1 % 4.25 dB
.01 % 4.31 dB

Date: 22.SEP.2017 10:18:35

### Diagram: QPSK 15 MHz CH21375, 1 RB high



NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.32 dBm
Peak 26.44 dBm
Crest 5.11 dB

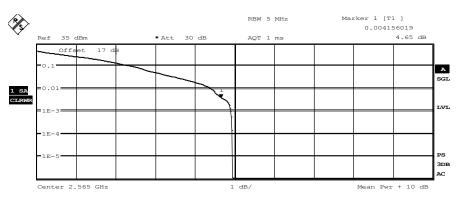
10 % 2.82 dB
1 % 4.38 dB
.1 % 5.05 dB
.01 % 5.11 dB

Date: 22.SEP.2017 10:19:34

Diagram: 16 QAM 15 MHz CH21375, 1 RB high



#### 1.2.4.4. 20MHz signal bandwidth



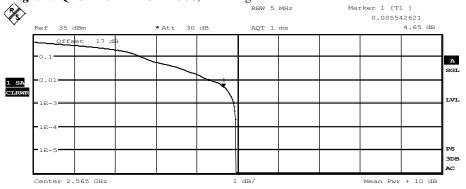
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 22.00 dBm
Peak 26.93 dBm
Crest 4.93 dB

10 % 2.44 dB
1 % 4.41 dB
1 % 4.90 dB
.01 % 4.94 dB

Date: 22.SEP.2017 10:37:18

### Diagram: QPSK 20 MHz CH21300, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 21.13 dBm
Peak 26.09 dBm
Crest 4.96 dB

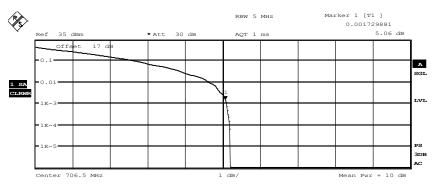
10 % 2.68 dB
1 % 4.36 dB
.1 % 4.90 dB
.01 % 4.97 dB

Date: 22.SEP.2017 10:40:19



### 1.2.5. LTE Band 17

Worst-Case of each maximum Peak power value was tested with the CCDF method 1.2.5.1. 5MHz signal bandwidth

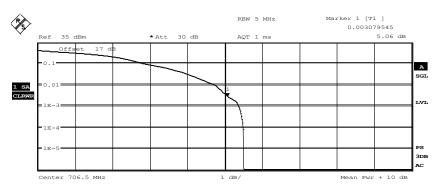


Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Mean Peak Cres	t	Trace 22.94 28.13 5.20	dBm dBm
_	아 앙 앙	2.74 4.65 5.10	dB dB

Date: 22.SEP.2017 10:48:18

## Diagram: QPSK 5 MHz CH23755, 1 RB high



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1

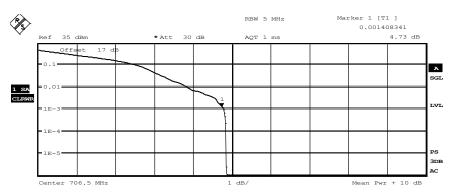
Mean Peak Crest	22.28 27.78 5.50	dBm
10 % 1 %	2.88	
.1 %	5.37	dВ
.01 %	5.50	dВ

Date: 22.SEP.2017 10:49:29

Diagram: 16 QAM 5 MHz CH23755, 1 RB high



#### 1.2.5.2. 10MHz signal bandwidth



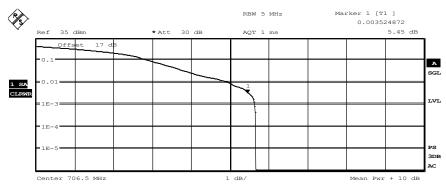
Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1MHz

Trace 1
Mean 23.28 dBm
Peak 28.13 dBm
Crest 4.85 dB

10 % 2.56 dB
1 % 3.85 dB
.1 % 4.78 dB
.01 % 4.86 dB

Date: 22.SEP.2017 10:51:12

## Diagram: QPSK 10 MHz CH23800, 1 RB low



Complementary Cumulative Distribution Function NOF samples: 8000, Usable BW: 7.1 MHz

Trace 1
Mean 22.11 dBm
Peak 27.78 dBm
Crest 5.66 dB

10 % 2.92 dB
1 % 4.95 dB
.1 % 5.64 dB
.01 % 5.67 dB

Date: 22.SEP.2017 10:52:16

Diagram: 16 QAM 10 MHz CH23800, 1 RB low



### 1.3. Spurious emissions radiated (LTE Band 2)

## 1.3.1. Magnetic field strength radiated (LTE Band 2)

## 2.01\_RSE\_ R\_Ch18607\_BW\_1,4

### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

Distance Correction used accord. table, pls. see test report

Technical Data Please see page 2 for detailed data of measurement setup

REc. antenna (pre-scan) height 1.00 m, parallel and 90° to EUT polarisation

Used Filter bypass

Test specification FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operating Mode BW\_1,4MHz\_1RB low\_CH\_18607

Operator DLe

Operating Conditions Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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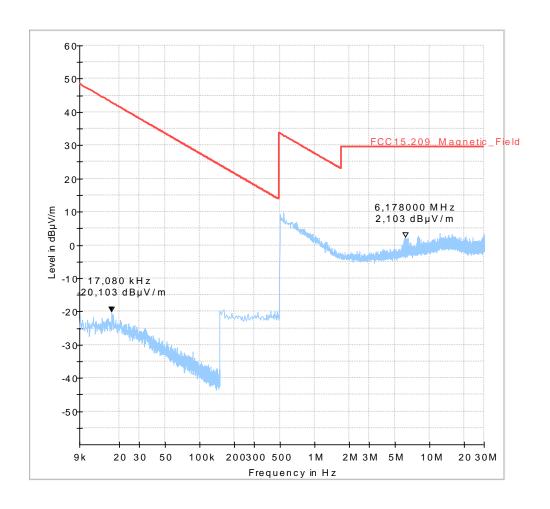
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





## 2.02\_RSE\_ R\_Ch18900\_BW\_10

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

**Distance Correction** used accord. table, pls. see test report

Please see page 2 for detailed data of measurement setup **Technical Data** REc. antenna (pre-scan)

height 1.00 m, parallel and 90° to EUT polarisation

**Used Filter** bypass

FCC 15.205 § 15.209; RSS-Gen: Issue 4 Test specification Operating Mode BW\_10MHz \_1RB high\_CH\_18900 DLe

Operator

**Operating Conditions** Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

## **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

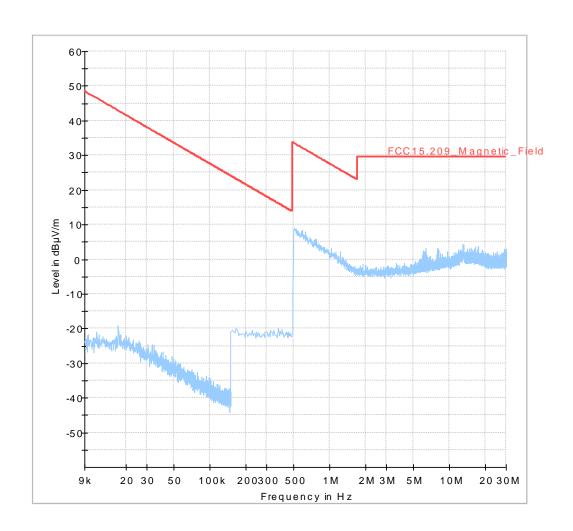
66-10777-001 EuT:

HW Version: 9134G05

SW Version: 17.02.S.016 Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





## 2.03\_RSE\_ R\_Ch19150\_BW\_10

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

**Distance Correction** used accord. table, pls. see test report

**Technical Data** Please see page 2 for detailed data of measurement setup REc. antenna (pre-scan)

height 1.00 m, parallel and 90° to EUT polarisation

bypass

Test specification FCC 15.205 § 15.209; RSS-Gen: Issue 4 Operating Mode BW\_10MHz\_1RB high \_CH\_19150

Operator

Operating Conditions Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

**Used Filter** 

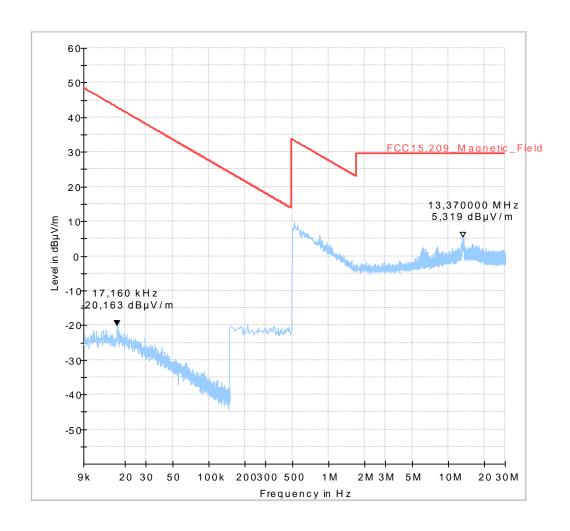
Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

HW Version: 9134G05 SW Version: 17.02.S.016 Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





## 1.3.2. Emissions above 30MHz (LTE Band 2)

## 8.01\_RSE\_ R\_Ch18607\_BW\_1,4

#### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDDII

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BW\_1,4MHz\_1RB low\_Ch\_18607 Environmental Conditions: Humidity: 50%rH; Temperature: 25°C

Operator: R

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

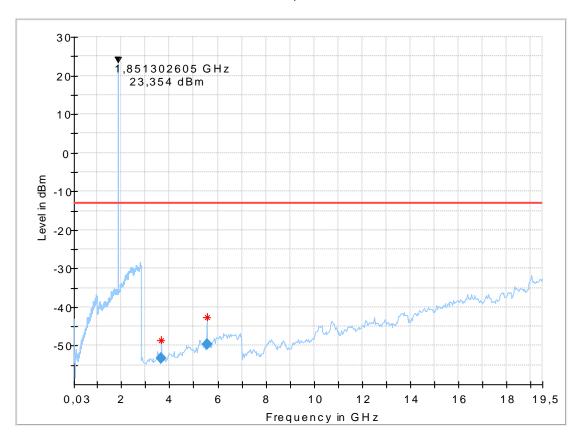
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



### **Final Result**

Frequency (MHz)	MaxPe ak (dBm)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
3669.753507	-53.27	13.00	40.27	10000. 0	1000.000	Н	272.0	0.0	-94.8
5544.382765	-49.62	13.00	36.62	10000. 0	1000.000	Н	248.0	0.0	-89.9



## 8.02\_RSE\_ R\_Ch18900\_BW\_10

### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDDII

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BW\_10MHz\_1RB high\_Ch\_18900 Environmental Conditions: Humidity: 50%rH; Temperature: 25°C

Operator:

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

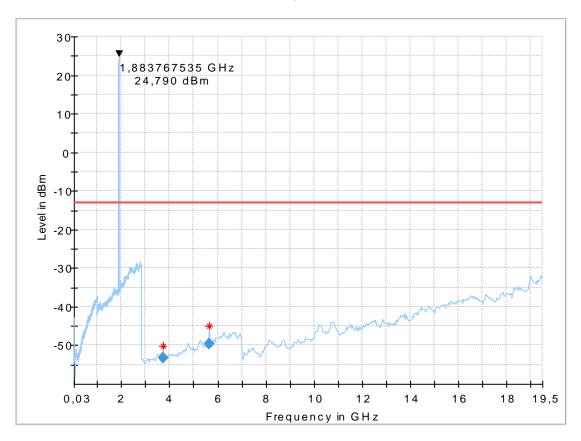
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



## Final\_Result

riiai_Nesuit										
	Frequency (MHz)	MaxPe ak (dBm)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
	3736.775551	-53.38	13.00	40.38	10000. 0	1000.000	Н	203.0	0.0	-95.0
	5644.274549	-49.68	13.00	36.68	10000. 0	1000.000	Н	294.0	0.0	-89.7



## 8.03\_RSE\_ R\_Ch19150\_BW\_10

### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDDII

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BW\_10MHz \_1RB high\_Ch\_19150
Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

······

 HW Version:
 9134G05

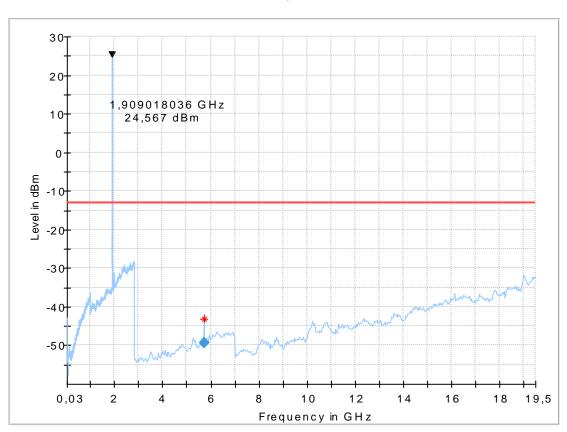
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



#### Final\_Result

Frequency (MHz)	MaxPe ak (dBm)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
5712.290582	-49.44	13.00	36.44	10000. 0	1000.000	Н	241.0	0.0	-89.5



### 1.4. Spurious emissions radiated (LTE Band 4)

## 1.4.1. Magnetic field strength radiated (LTE Band 4)

## Diagram No. 2.11\_RSE\_R\_Ch19965\_BW\_3

#### **Common Information**

Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.0

Distance correction: used accord. table, pls. see test report

Technical Data: Please see page 2 for detailed data of measurement setup

Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation

Used filter: bypass

Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: RIs

Operating conditions: BW\_3MHz \_1RB high\_Ch\_19965

Power during tests: 24V DC Comment 1: Channel low

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

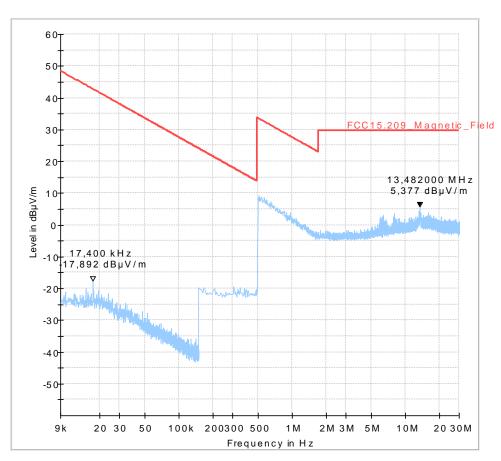
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

Serial Number: 2950006922 Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum





# Diagram No. 2.12\_RSE\_R\_Ch20175\_BW\_10

#### **Common Information**

Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.0

Distance correction: used accord. table, pls. see test report

Technical Data: Please see page 2 for detailed data of measurement setup

Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation

Used filter: bypass

Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4 Operator: RIs

Operating conditions: BW\_10MHz\_1RB\_high\_QPSK\_CH\_20175

Power during tests: 24V DC Comment 1: Channel low

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

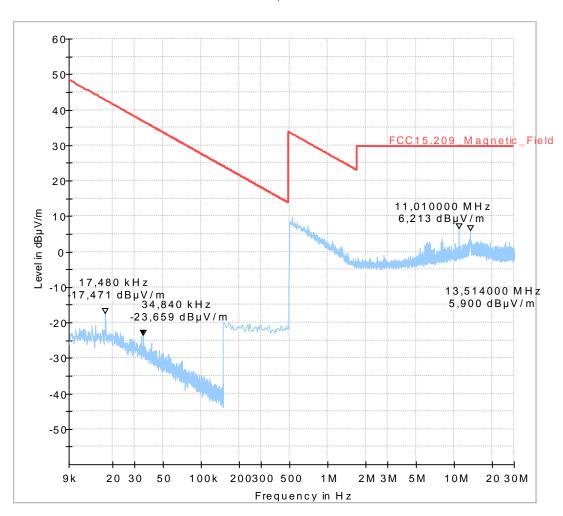
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# Diagram No.2.13\_RSE\_R\_Ch20300\_BW\_20

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

**Distance Correction** used accord. table, pls. see test report

**Technical Data** Please see page 2 for detailed data of measurement setup REc. antenna (pre-scan)

height 1.00 m, parallel and 90° to EUT polarisation

**Used Filter** bypass

Test specification FCC 15.205 § 15.209; RSS-Gen: Issue 4 Operating Mode BW\_20MHz\_RB\_low\_QPSK\_CH\_20300

Operator DLe

Operating Conditions Humidity: 35%rH; Temperature: 20°C

24V DC Power during Test

#### **EUT Information**

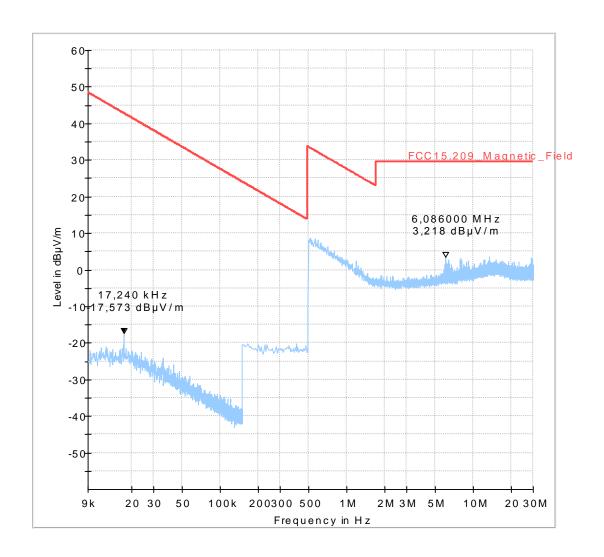
Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

HW Version: 9134G05

SW Version: 17.02.S.016 Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





### 1.4.2. Emissions above 30MHz (LTE Band 4)

# 8.11\_RSE\_R\_Ch19965\_BW\_3

#### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDD4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BW\_3MHz\_1RB\_high\_QPSK\_CH\_19965
Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

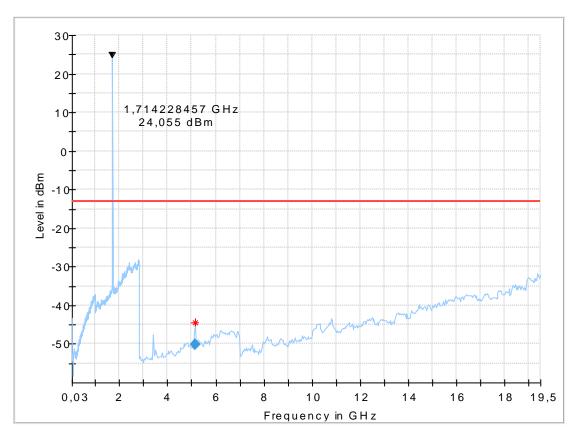
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
5142.891784	13.00	37.25	10000. 0	Н	273.0	0.0	-90.5



# 8.12\_RSE\_R\_Ch20175\_BW\_10

### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDD4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BW\_10MHz\_1RB\_high\_QPSK\_CH\_20175 Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

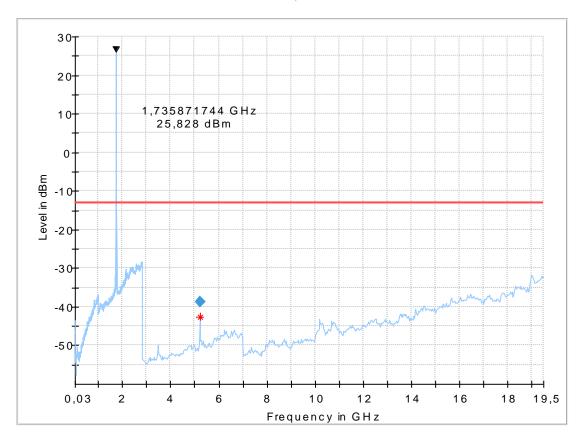
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
5210.603207	13.00	25.69	10000. 0	٧	268.0	0.0	-89.1



# 8.13\_RSE\_R\_Ch20300\_BW\_20

### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDD4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: 20MHz\_1RB low\_QPSK\_Ch\_20300 Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

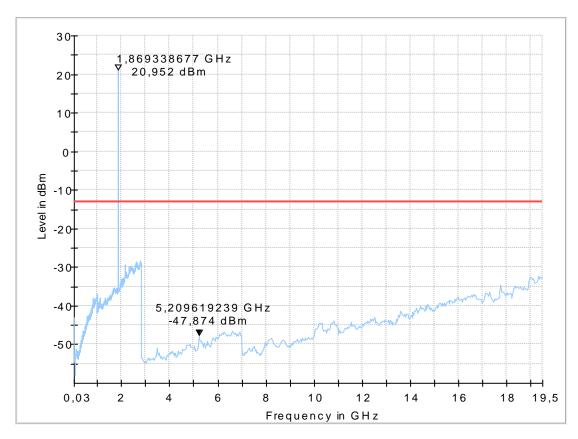
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





### 1.5. Spurious emissions radiated (LTE Band 5)

## 1.5.1. Magnetic field strength radiated (LTE Band 5)

## 2.21\_RSE\_R\_Ch20425\_BW\_5

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.

Distance Correction used accord. table, pls. see test report

Technical Data Please see page 2 for detailed data of measurement setup

REc. antenna (pre-scan) height 1.00 m, parallel and 90° to EUT polarisation

Used Filter bypass

Test specification FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operating Mode BW\_5MHz\_1RB\_high\_QPSK\_CH\_20425

Operator S

Operating Conditions Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

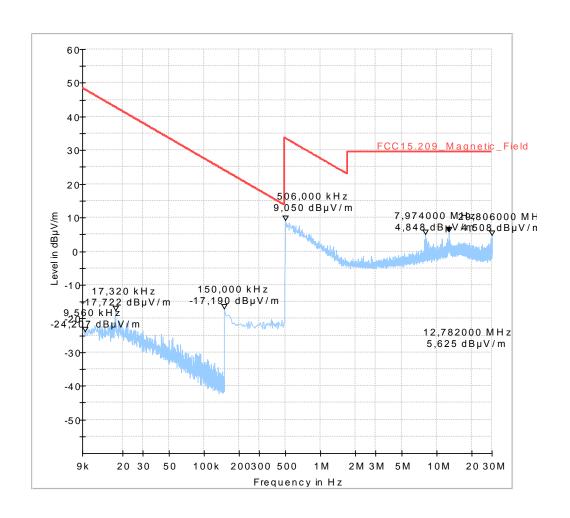
HW Version: 9134G05

 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 2.22\_RSE\_R\_Ch20525\_BW\_10

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

**Distance Correction** used accord. table, pls. see test report

Please see page 2 for detailed data of measurement setup **Technical Data** REc. antenna (pre-scan)

height 1.00 m, parallel and 90° to EUT polarisation

**Used Filter** bypass

FCC 15.205 § 15.209; RSS-Gen: Issue 4 Test specification Operating Mode BW\_10MHz\_1RB\_low\_QPSK\_CH\_20525

Operator SLo

**Operating Conditions** Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

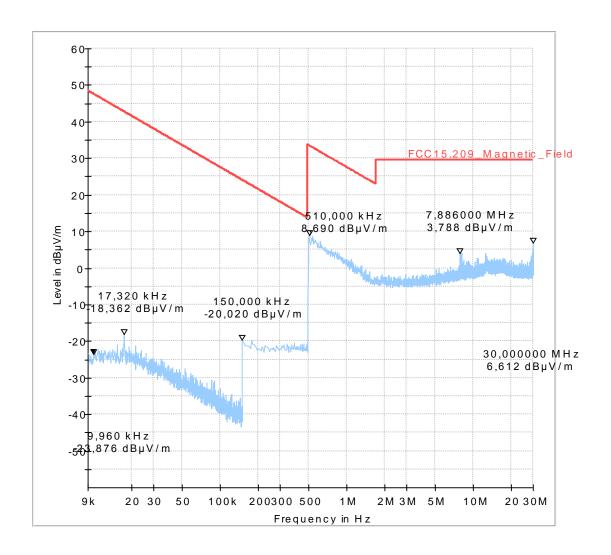
Manufacturer: Robert Bosch Car Multimedia GmbH

66-10777-001 EuT:

HW Version: 9134G05

SW Version: 17.02.S.016 Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 2.23\_RSE\_R\_Ch20643\_BW\_5

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

**Distance Correction** used accord. table, pls. see test report

**Technical Data** Please see page 2 for detailed data of measurement setup REc. antenna (pre-scan)

height 1.00 m, parallel and 90° to EUT polarisation

**Used Filter** bypass

FCC 15.205 § 15.209; RSS-Gen: Issue 4 Test specification Operating Mode BW\_5MHz\_1RB\_high\_QPSK\_CH\_20643

Operator SLo

**Operating Conditions** Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

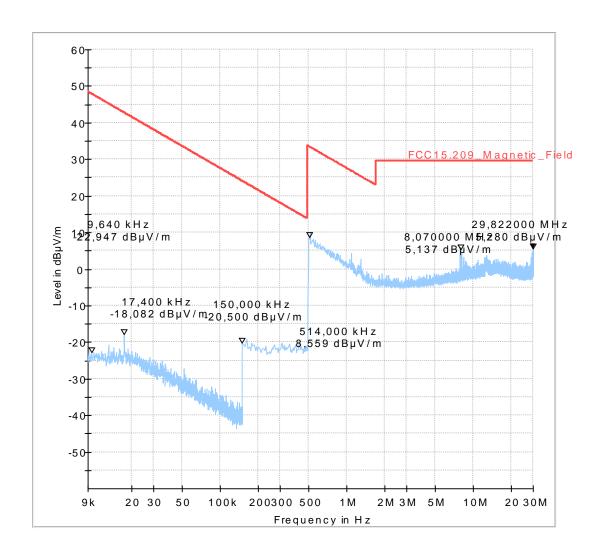
Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

HW Version: 9134G05

SW Version: 17.02.S.016 Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





## 1.5.2. Emissions above 30MHz (LTE Band 5)

# 8.21\_RSE\_R\_Ch20425\_BW\_5

#### **Common Information**

Test Description: Radiated Spurious Emissions LTEF DD 5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22.917(a)

Operating Mode: 5MHz\_1high\_QPSK\_Ch\_20425 Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

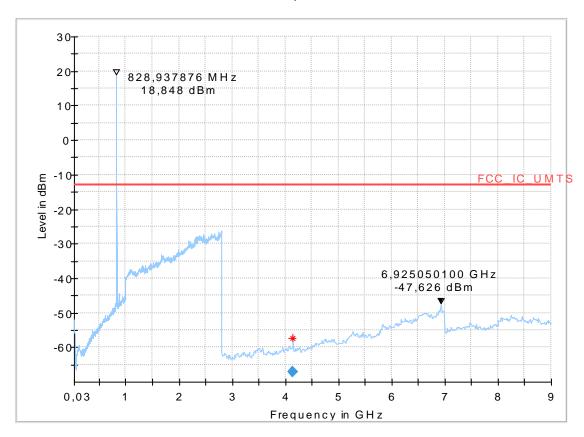
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	RMS (dBm)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
		,		` '			` ',	ì	



# 8.22\_RSE\_R\_Ch20525\_BW\_10

### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDD 5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22.917(a)

Operating Mode: 10MHz\_1low\_QPSK\_Ch\_20525 Environmental Conditions: 10MHz\_1low\_QPSK\_Ch\_20525 Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

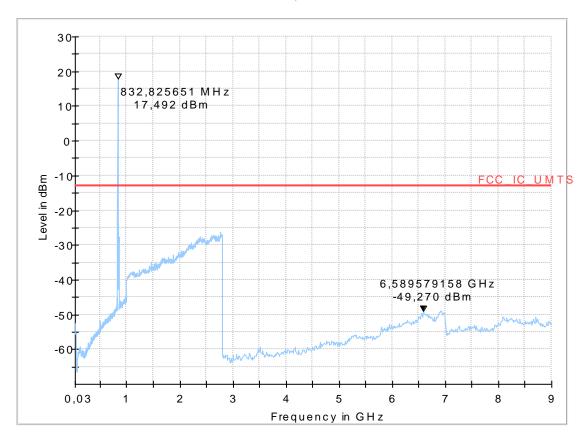
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 8.23\_RSE\_R\_Ch20643\_BW\_5

### **Common Information**

Test Description: Radiated Spurious Emissions LTE FDD 5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22.917(a)

Operating Mode: 5MHz\_1high\_QPSK\_Ch\_20625 Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

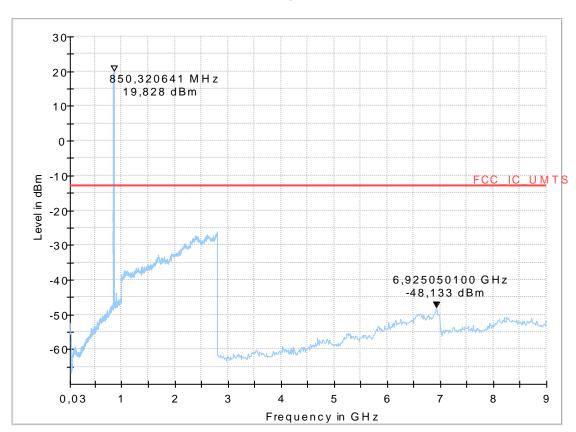
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





## 1.6. Spurious emissions radiated (LTE Band 7)

## 1.6.1. Magnetic field strength radiated (LTE Band 7)

# Diagram No. 2.31\_RSE\_R\_Ch20850\_BW\_20

#### **Common Information**

Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.0

Distance correction: used accord. table, pls. see test report

Technical Data: Please see page 2 for detailed data of measurement setup

Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation

Used filter: bypass

Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: RIs

Operating conditions: BW20MHz\_RB1high\_QPSK\_Ch20850

Power during tests: 24V DC Comment 1: Channel low

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

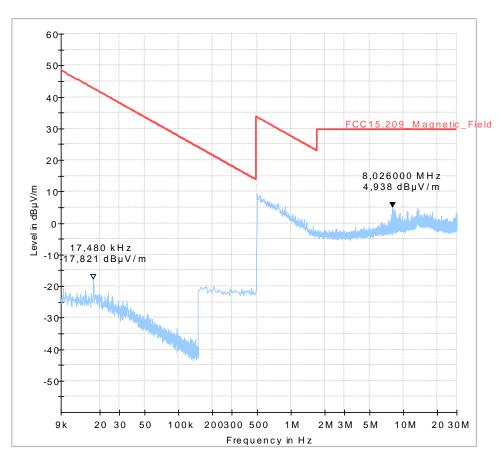
EuT: 66-10777-001

HW Version: 9134G05

SW Version: 17.02.S.016
Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# Diagram No. 2.32\_RSE\_R\_Ch21100\_BW\_15

#### **Common Information**

Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.0

Distance correction: used accord. table, pls. see test report

Technical Data: Please see page 2 for detailed data of measurement setup

Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation

Used filter: bypass

Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: RIs

Operating conditions: BW15MHz\_RB1Low\_QPSK\_Ch21100

Power during tests: 24V DC

Comment 1: Channel middle

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

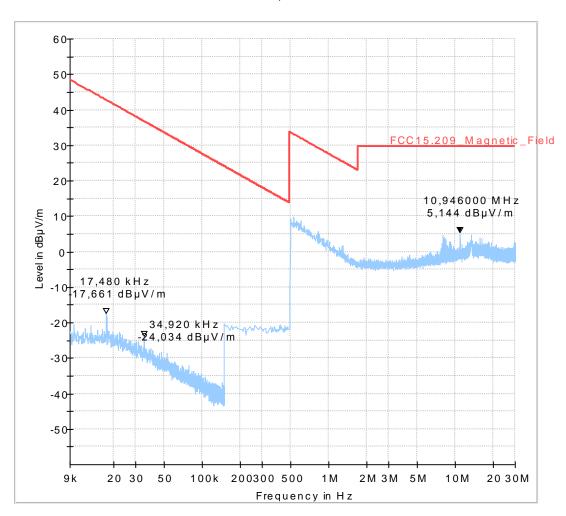
HW Version: 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# Diagram No. 2.33\_RSE\_R\_Ch21425\_BW\_5

#### **Common Information**

Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.0

Distance correction: used accord. table, pls. see test report

Technical Data: Please see page 2 for detailed data of measurement setup

Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation

Used filter: bypass

Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: RIs

Operating conditions: BW5MHz\_RB1Low\_QPSK\_Ch21425

Power during tests: 24V DC Comment 1: Channel high

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

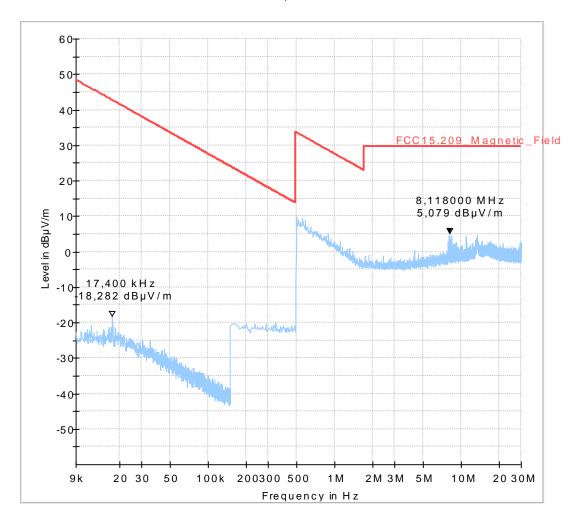
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





## 1.6.2. Emissions 30MHz - 2.8GHz (LTE Band 7)

# 8.31\_RSE\_R\_Ch20850\_BW\_20

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 20850/ BW:20MHz / RB:1 / Position: high

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator: SRa

Remarks:

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

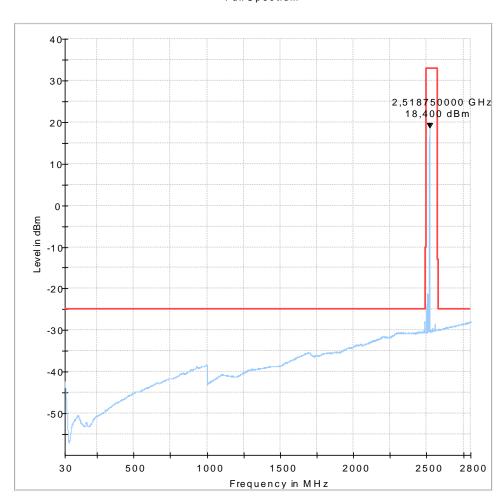
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

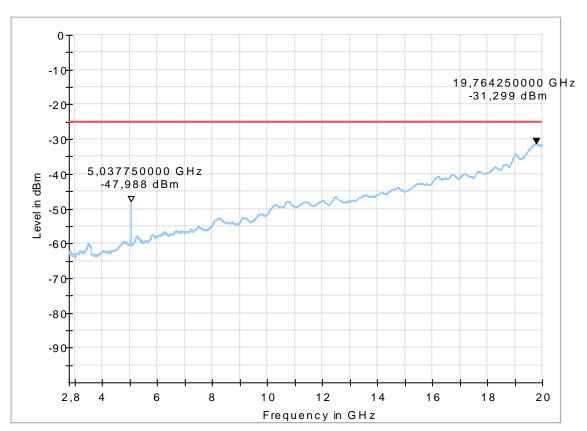
 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC









# 8.32\_RSE\_R\_Ch21100\_BW\_15

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

SRa

Operating Mode: UE allocated channel 21100/ BW:15MHz / RB:1 / Position: low

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator:

. Remarks:

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

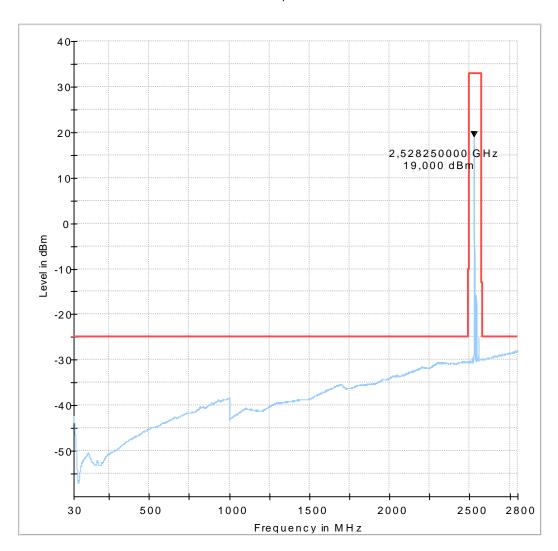
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

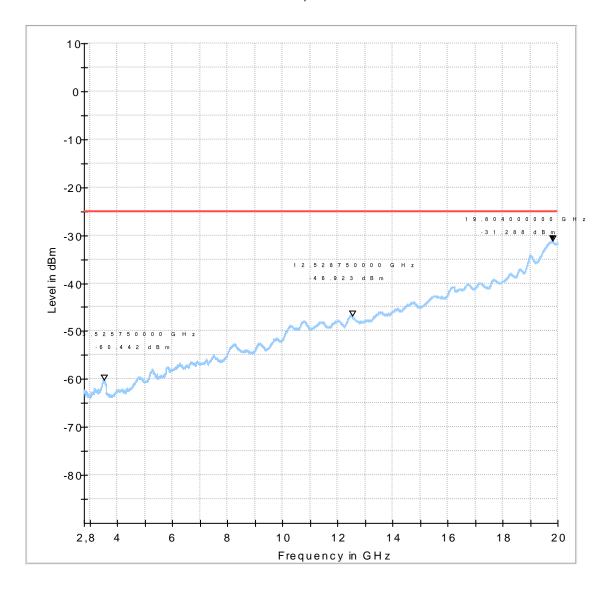
 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC









# 8.33\_RSE\_R\_Ch21425\_BW\_5

### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 21425/ BW:5MHz / RB:1 / Position: high

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator: SRa

Remarks: EUT - laying+standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

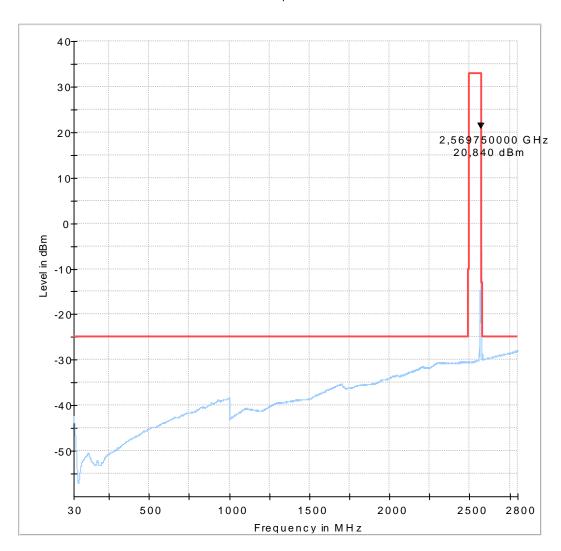
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

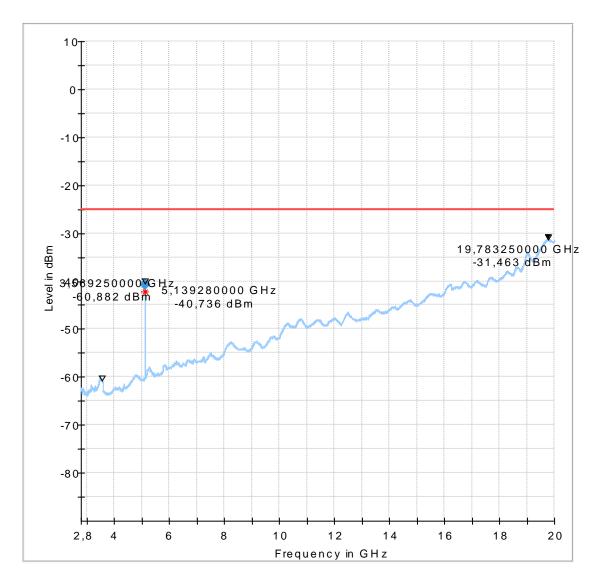
 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC









### 1.7. Spurious emissions radiated (LTE Band 17)

## 1.7.1. Magnetic field strength radiated (LTE Band 17)

## 2.41\_RSE\_R\_Ch23035\_BW\_5

### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

Distance Correction used accord. table, pls. see test report

Technical Data Please see page 2 for detailed data of measurement setup

REc. antenna (pre-scan) height 1.00 m, parallel and 90° to EUT polarisation

Used Filter bypass

Test specification FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operating Mode BW\_5MHz\_RB\_HIGH\_QPSK\_CH\_23035

Operator

Operating Conditions Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

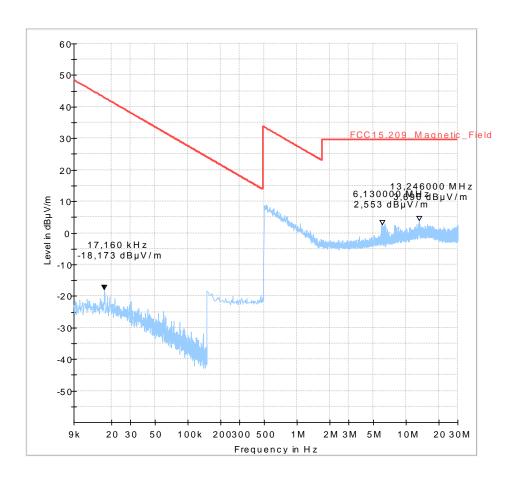
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 2.42\_RSE\_R\_Ch23790\_BW\_10

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

Distance Correction used accord. table, pls. see test report

Technical Data Please see page 2 for detailed data of measurement setup REc. antenna (pre-scan) height 1.00 m, parallel and 90° to EUT polarisation

Used Filter bypass

Test specification FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operating Mode BW\_10MHz\_RB\_LOW\_QPSK\_CH\_23790

Operator DI

Operating Conditions Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

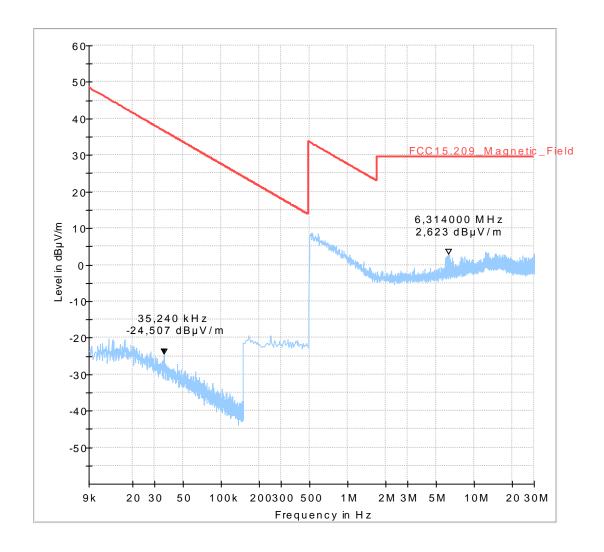
EuT: 66-10777-001

 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 2.43\_RSE\_R\_Ch23800\_BW\_10

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30/300m distance Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3m measurement distance

Version of Testsoftware EMC32 V9.25.0

**Distance Correction** used accord. table, pls. see test report

**Technical Data** Please see page 2 for detailed data of measurement setup REc. antenna (pre-scan)

height 1.00 m, parallel and 90° to EUT polarisation

**Used Filter** bypass

FCC 15.205 § 15.209; RSS-Gen: Issue 4 Test specification Operating Mode BW\_10MHz\_1RB\_high\_QPSK\_CH\_23800

Operator SLo

**Operating Conditions** Humidity: 35%rH; Temperature: 20°C

Power during Test 24V DC

#### **EUT Information**

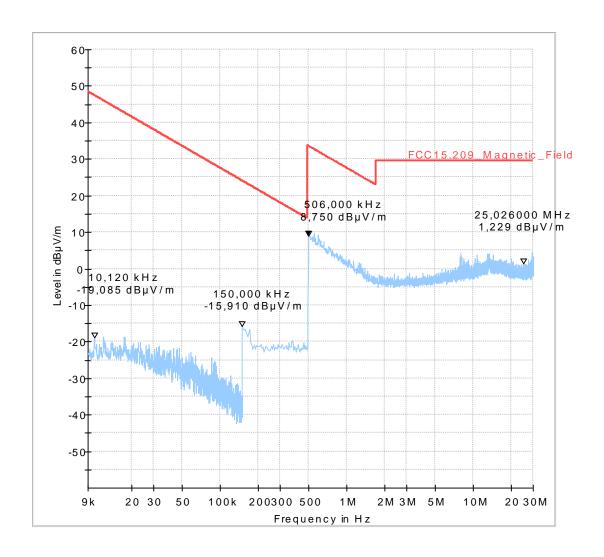
Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

HW Version: 9134G05

SW Version: 17.02.S.016 Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





## 1.8. Radiated emissions – band-edge (LTE Band 2)

## 1.8.1. Low band-edge

# 9.01\_BE\_LTE2\_low

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC 030417
Operating Mode: BE 1.4MHz | 1Rb low | Modulation QPSK | Ch 18607

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa/TFra

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

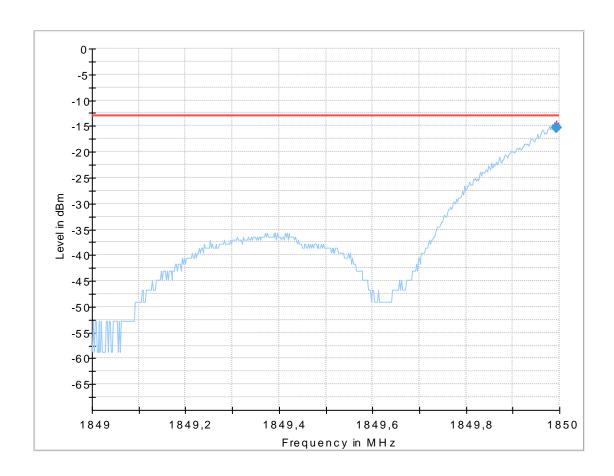
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC



•	iliai_i\e3uit									
	Frequency	RMS	Limit	Margi	Meas.	Bandwidt	Pol	Azimut	Elevatio	Corr.
	(MHz)	(dBm)	(dBm)	n	Time	h		h	n	(dB)
				(dB)	(ms)	(kHz)		(deg)	(deg)	
	1849.993988	-15.28	-13.00	2.28	2000.0	20.000	V	282.0	90.0	-63.1



# 9.02\_BE\_LTE2\_low\_Ch18607\_QAM

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 1.4MHz | 1RB low | Modulation QAM | CH 18607

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa/TFi

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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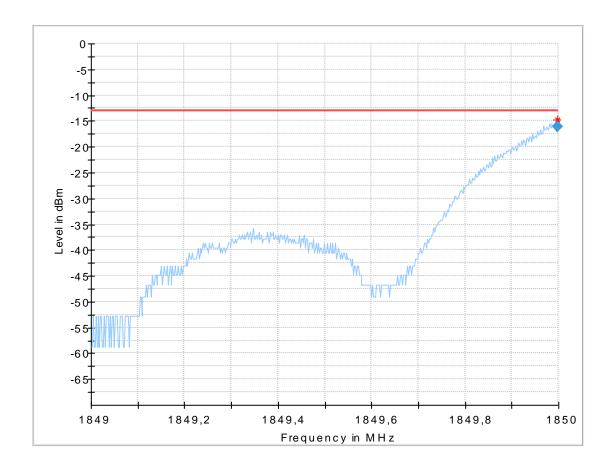
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC



Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margi n (dB)	Meas. Time (ms)	Bandwidt h (kHz)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
1849.997996	-16.14	-13.00	3.14	2000.0	20.000	Н	269.0	0.0	-63.1



# 9.05\_BE\_LTE2\_low\_Ch18650\_QAM

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 10 MHz / 50 RB low / Modulation QAM / CH 18650

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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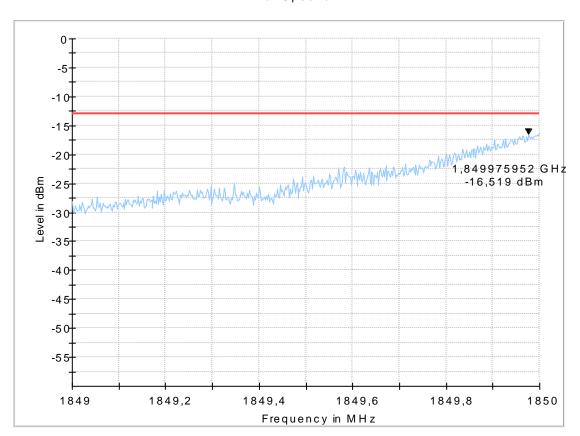
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.06\_BE\_LTE2\_low\_Ch18650\_QPSK

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 10 MHz / 50 RB low / Modulation QPSK / CH 18650

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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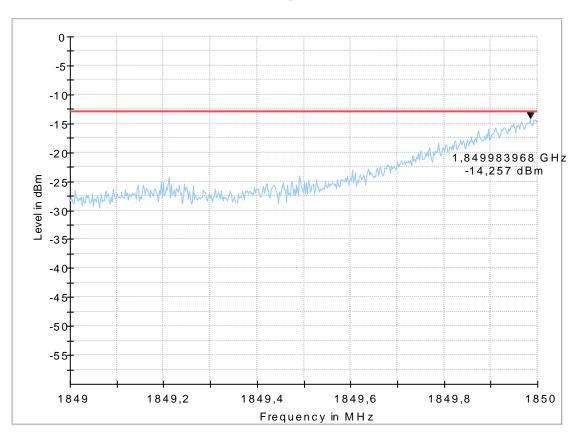
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





### 1.8.2. High band-edge

# 9.03\_BE\_LTE2\_high\_Ch19175\_QAM

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 1,4 MHz / 1RB high / Modulation QAM / CH 19175

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa/TFra

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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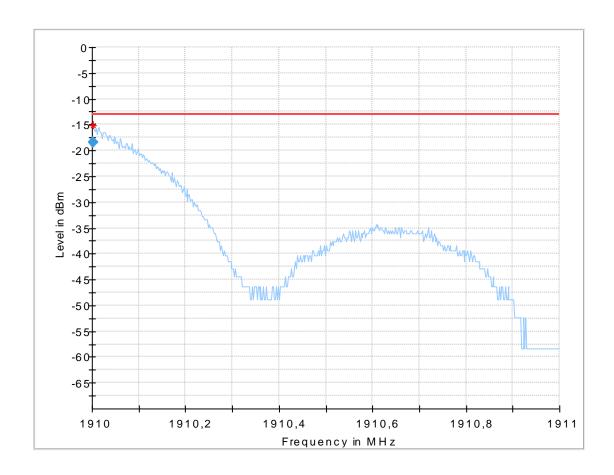
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC



Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margi n (dB)	Meas. Time (ms)	Bandwidt h (kHz)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
1910.002004	-18.41	-13.00	5.41	2000.0	20.000	Н	276.0	0.0	-62.8



# 9.04\_BE\_LTE2\_high\_Ch19175\_QPSK

### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 1,4 MHz / 1RB high / Modulation QPSK / CH 19175

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa/TFra

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

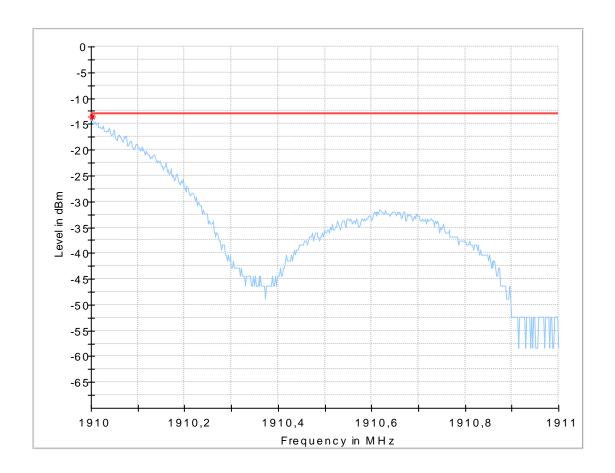
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.07\_BE\_LTE2\_high\_Ch19150\_QAM

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 10 MHz / 50RB / Modulation QAM / CH 19150

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa/TFra

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

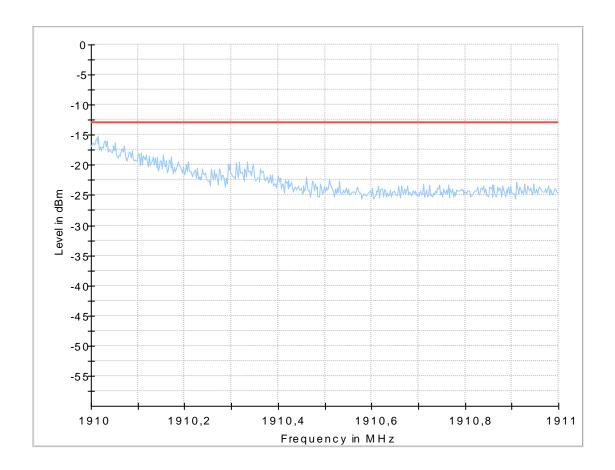
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.08\_BE\_LTE2\_high\_Ch19150\_QPSK

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE 10 MHz / 50RB / Modulation QPSK / CH 19150

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: SRa/TFra

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

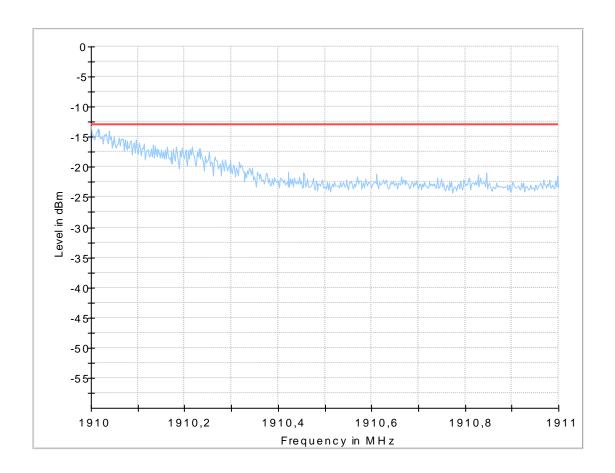
<u>------</u>

 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





## 1.9. Radiated emissions – band-edge (LTE Band 4)

### 1.9.1. Low Band-Edge

# 9.10\_BE\_LTE4\_1RB\_Low\_CH19965\_QPSK

### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: Continuous TX, BW 3MHz, 1RB low, QPSK, CH19965

Environment Conditions: Humidity: 35%rH; Temperature: 23°C

Operator Name: KI

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

 HW Version:
 9134G05

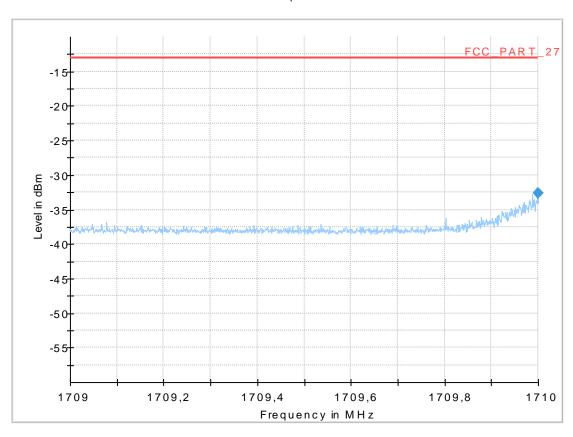
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



-											
	Frequency	RMS	Limit	Margi	Meas	Bandwidt	Heigh	Pol	Azimut	Elevatio	Corr.
	(MHz)	(dBm)	(dBm)	n		h	t		h	n	(dB)
				(dB)	Time	(kHz)	(cm)		(deg)	(deg)	
	1710.000000	-32.60	-13.00	19.60	700.0	30.000	155.0	Н	328.0	0.0	-63.4



# 9.11\_BE\_LTE4\_1RB\_Low\_CH19965\_QAM

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: Continuous TX, BW 3MHz, 1RB low, QAM, CH19965

Environment Conditions: Humidity: 35%rH; Temperature: 23°C

Operator Name: Klv

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

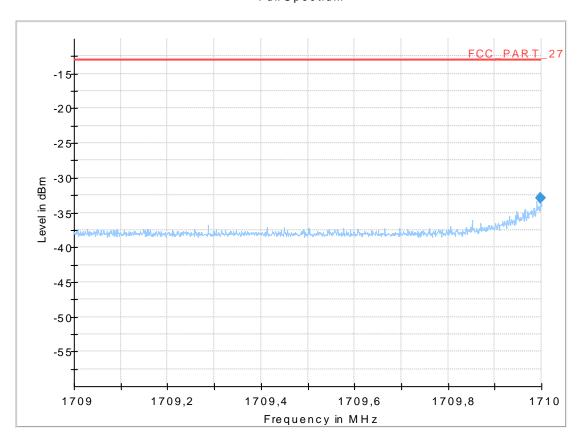
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margi n	Meas	Bandwidt h	Heigh t	Pol	Azimut h	Elevatio n	Corr. (dB)
			(dB)	Time	(kHz)	(cm)		(deg)	(deg)	
1709.998000	-32.91	-13.00	19.91	700.0	30.000	155.0	Н	331.0	0.0	-63.3



# 9.12\_BE\_LTE4\_low\_Ch19965\_QPSK

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE3MHz\_15RBlow\_ModulationQPSK\_CH 19965

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

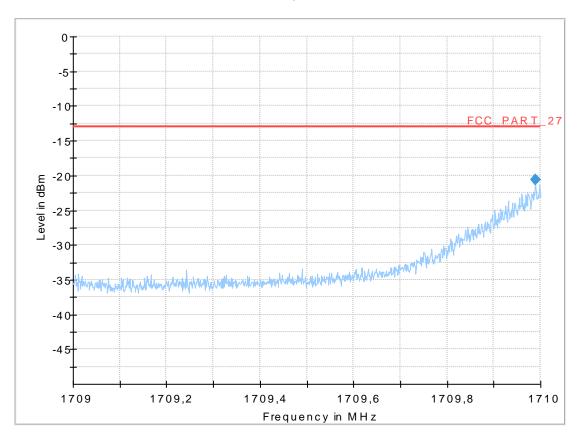
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



Frequency (MHz)	RMS (dBm )	Limit (dBm)	Margi n (dB)	Meas Time	Bandwidt h (kHz)	Heigh t (cm)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
1709.989000	-	-13.00	7.67	700.0	30.000	155.0	V	285.0	90.0	-63.3



# 9.13\_BE\_LTE4\_low\_Ch19965\_QAM

### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE3MHz\_15RBlow\_ModulationQAM\_CH 19965

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

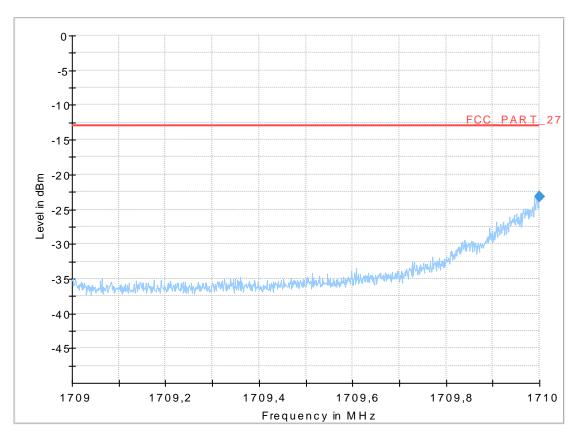
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	RMS (dBm )	Limit (dBm)	Margi n (dB)	Meas Time	Bandwidt h (kHz)	Heigh t (cm)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
1709.999000	1	-13.00	10.24	700.0	30.000	155.0	V	280.0	90.0	-63.3



## 1.9.2. High Band-Edge

# 9.14\_BE\_LTE4\_high\_Ch20300\_QPSK

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE20MHz\_1RBhigh\_ModulationQPSK\_CH20300

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: R

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

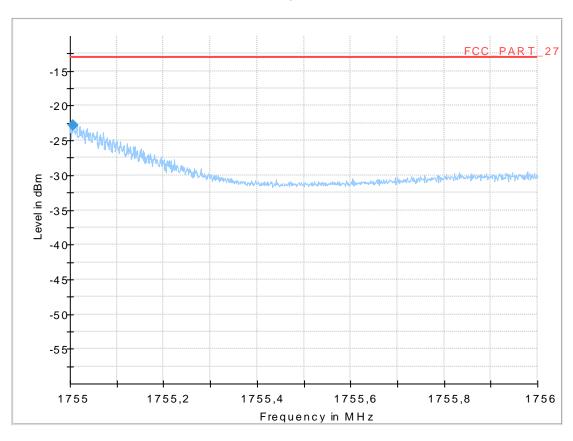
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency	RMS	Limit	Margi	Meas	Bandwidt	Heigh	Pol	Azimut	Elevatio	Corr.
(MHz)	(dBm)	(dBm)	n		h	t		h	n	(dB)
			(dB)	Time	(kHz)	(cm)		(deg)	(deg)	
1755.007000	-22.84	-13.00	9.84	700.0	200.000	155.0	V	286.0	90.0	-63.6



# 9.15\_BE\_LTE4\_high\_Ch20300\_QAM

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE20MHz\_1RBhigh\_ModulationQAM\_CH20300

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

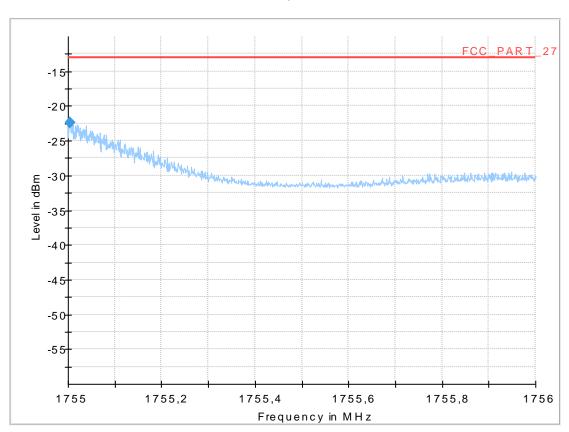
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



-											
	Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margi n	Meas	Bandwidt h	Heigh t	Pol	Azimut h	Elevatio n	Corr. (dB)
	<b>(-</b> )	(,	(,	(dB)	Time	(kHz)	(cm)		(deg)	(deg)	()
	1755.005000	-22.44	-13.00	9.44	700.0	200.000	155.0	V	286.0	90.0	-63.6



# 9.16\_BE\_LTE4\_high\_Ch20300\_QPSK

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE20MHz\_1RBhigh\_ModulationQPSK\_CH20300

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

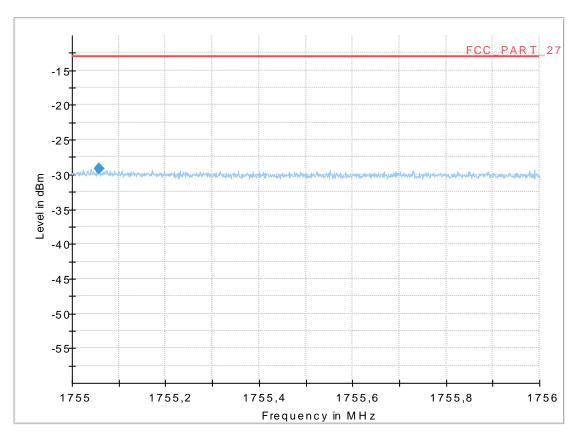
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margi n (dB)	Meas Time	Bandwidt h (kHz)	Heigh t (cm)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
1755.058000	-29.12	-13.00	16.12	700.0	200.000	155.0	V	285.0	90.0	-63.6



# 9.17\_BE\_LTE4\_high\_Ch20300\_QAM

### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B4

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE20MHz\_1RBhigh\_ModulationQAM\_CH20300

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

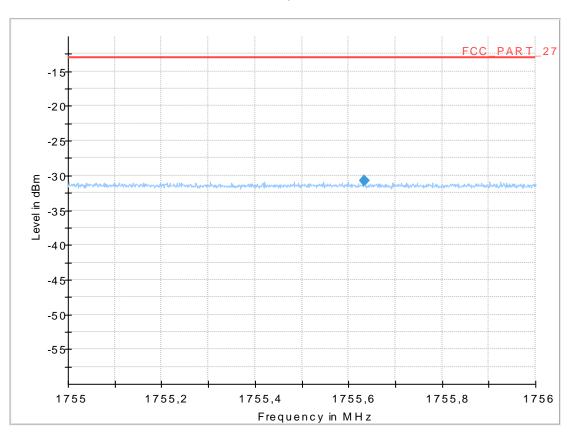
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



-											
	Frequency	RMS	Limit	Margi	Meas	Bandwidt	Heigh	Pol	Azimut	Elevatio	Corr.
	(MHz)	(dBm)	(dBm)	n		h	t		h	n	(dB)
				(dB)	Time	(kHz)	(cm)		(deg)	(deg)	
	1755.634000	-30.82	-13.00	17.82	700.0	200.000	155.0	Н	325.0	0.0	-63.6



## 1.10. Radiated emissions – band-edge (LTE Band 5)

## 1.10.1. Low Band-Edge

# 9.21\_BE\_LTE5\_1RBLow\_Ch20425\_QPSK

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 22

Operating Mode: BE5MHz\_1RBLow\_ModulationQPSK\_CH20425

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RI

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

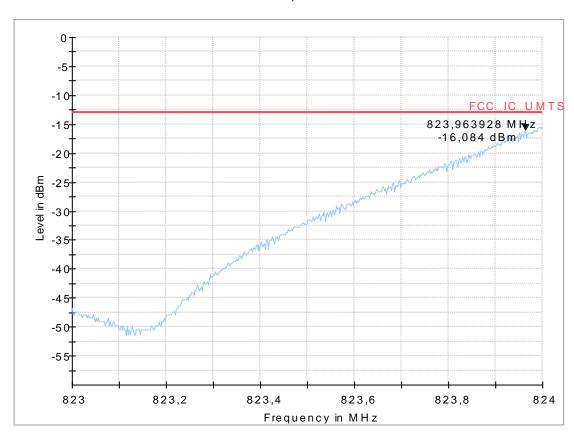
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.22\_BE\_LTE5\_1RBLow\_Ch20425\_QAM

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 22

Operating Mode: BE5MHz\_1RBLow\_ModulationQAM\_CH20425

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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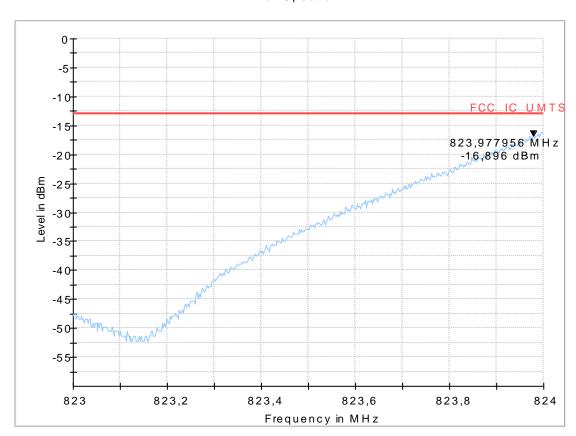
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.23\_BE\_LTE5\_25RBLow\_Ch20425\_QPSK

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 22

Operating Mode: BE5MHz\_25RBLow\_ModulationQPSK\_CH20425

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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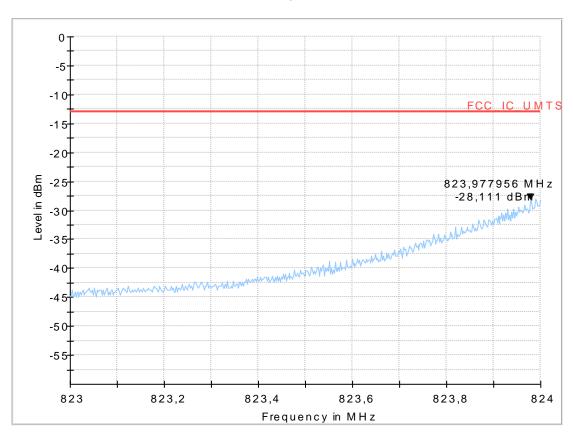
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.24\_BE\_LTE5\_25RBLow\_Ch20425\_QAM

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B5

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 22

Operating Mode: BE5MHz\_25RBLow\_ModulationQAM\_CH20425

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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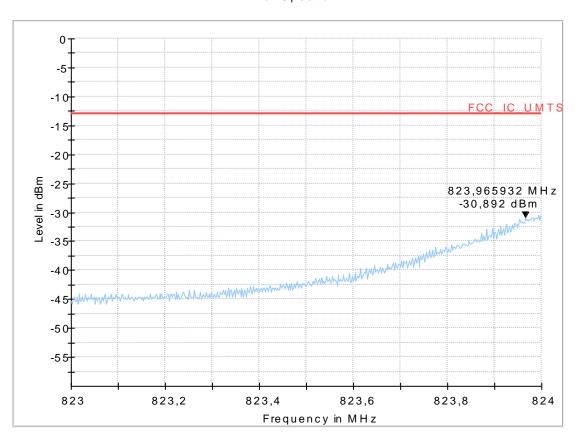
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





### 1.10.2. High Band-Edge

# 9.25\_BE\_LTE5\_1RBHigh\_Ch20625\_QPSK

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part xx

Operating Mode: BE5MHz\_1RBHigh\_ModulationQPSK\_CH20625

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RI

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

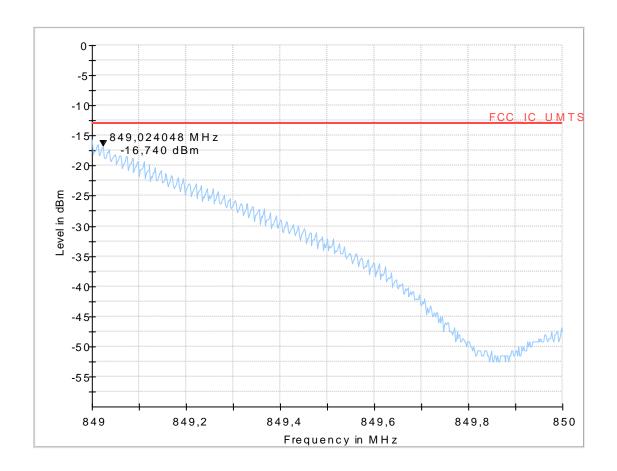
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.26\_BE\_LTE5\_1RBHigh\_Ch20625\_QAM

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part xx

Operating Mode: BE5MHz\_1RBHigh\_ModulationQAM\_CH20625

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator:

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

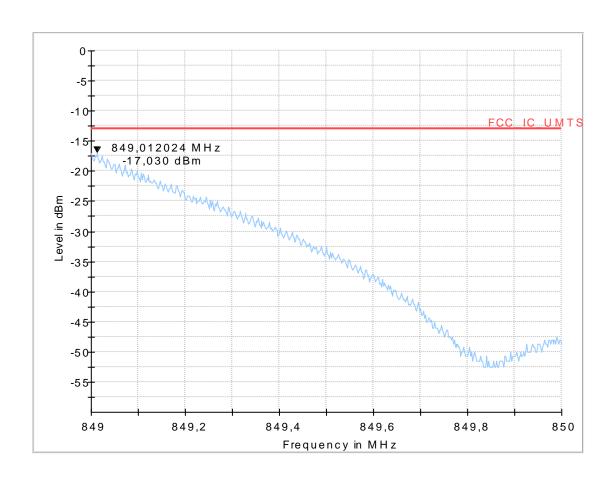
EuT: 66-10777-001

 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.27\_BE\_LTE5\_25RBHigh\_Ch20625\_QPSK

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 24

Operating Mode: BE5MHz\_25RBHigh\_ModulationQPSK\_CH20625

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

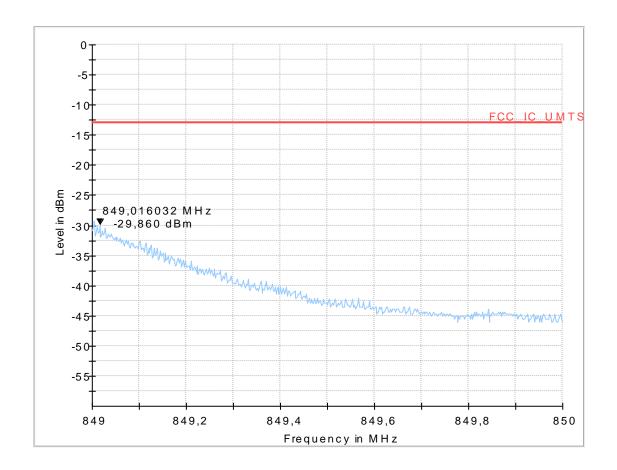
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.28\_BE\_LTE5\_25RBHigh\_Ch20625\_QAM

#### **Common Information**

Test Description: Radiated field strength emission in 3m distance

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part xx

Operating Mode: BE5MHz\_25RBHigh\_ModulationQAM\_CH20625

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

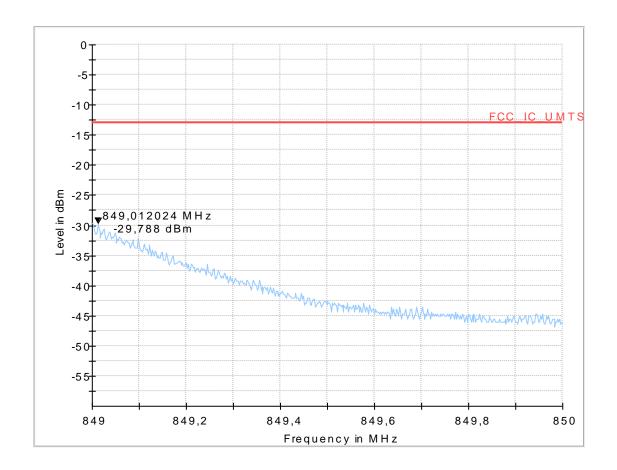
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





## 1.11. Radiated emissions – band-edge (LTE Band 7)

## 1.11.1. Low Band-Edge

## 9.30 BE LTE7\_1RB Low CH20850 QPSK new

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: **CETECOM GmbH Essen** Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 20850/ BW20: / RB 1: / Position: low/ QPSK

Humidity: 45%rH; Temperature: 23°C EMC32 V9.26.0 **Environmental Conditions:** 

Test SW Version:

Operator: Mah/Soz

Remarks: EUT - laying/standing position

### **EUT Information**

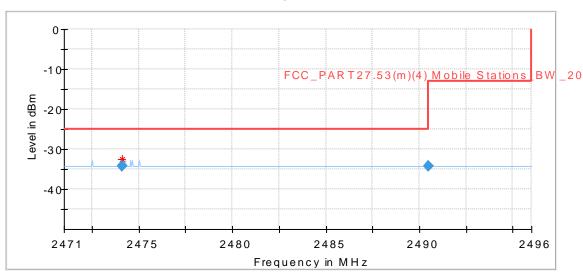
Robert Bosch Car Multimedia GmbH Manufacturer:

EuT: 66-10777-001

HW Version: 9134G05 SW Version: 17.02.S.016 2950006922 Serial Number:

Connected Interfaces: Main wiring + DTNA Antenna

24V DC Power Supply:





# 9.31\_BE\_LTE7\_1RB\_CH20850\_QAM

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 20850/ BW:20MHz / RB: 1/ Position: low/ QAM

Environmental Conditions: Humidity: 45%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0 Operator: Mah/Soz

Remarks: EUT - laying/standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

 HW Version:
 9134G05

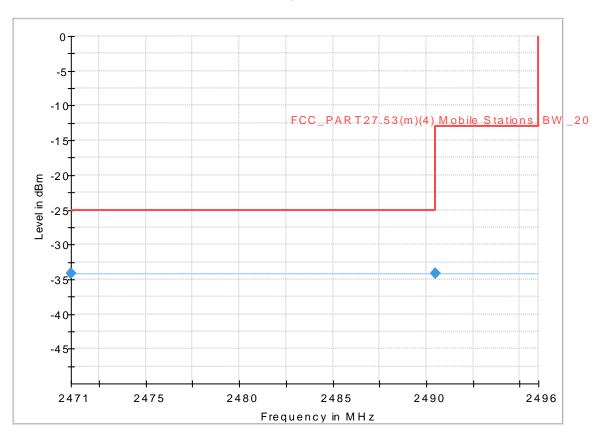
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Heigh t (cm)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)	Comment
2471.000000	-	9.20	1000.0	155.0	Н	29.0	90.0	-59.6	09:46:51 - 20.09.2017
2490.488978	-	9.19	1000.0	155.0	Н	32.0	90.0	-59.6	09:48:49 - 20.09.2017



# 9.32\_BE\_LTE7\_100RB\_CH20850\_QPSK

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 20850/ BW: 20MHz/ RB: 100/ QPSK

Environmental Conditions: Humidity: 45%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0 Operator: Mah/Soz

Remarks: EUT - laying/standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

 HW Version:
 9134G05

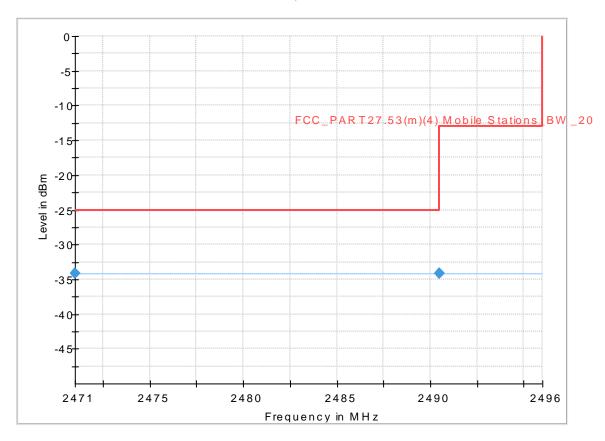
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Heigh t (cm)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)	Comment
2471.000000	-	9.20	1000.0	155.0	Н	31.0	90.0	-59.6	10:27:48 - 20.09.2017
2490.488978	-	9.19	1000.0	155.0	Н	31.0	90.0	-59.6	10:29:48 - 20.09.2017



# 9.33\_BE\_LTE7\_100RB\_CH20850\_QAM

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 20850/ BW: 20MHz/ RB: 100/ QAM

Environmental Conditions: Humidity: 45%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0 Operator: Mah/Soz

Remarks: EUT - laying/standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

 HW Version:
 9134G05

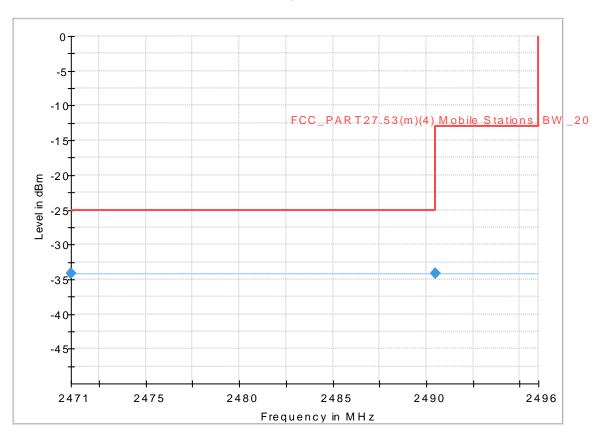
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Heigh t (cm)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)	Comment
2471.000000	-	9.20	1000.0	155.0	Н	31.0	90.0	-59.6	10:07:58 - 20.09.2017
2490.488978	-	9.19	1000.0	155.0	Н	30.0	90.0	-59.6	10:09:58 - 20.09.2017



### 1.11.2. High Band-Edge

# 9.34\_BE\_LTE7\_1RB\_High\_CH21425\_QPSK

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 21425/ BW: 5MHz/ RB: 1/ Position: high/ QPSK

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator: Klv

Remarks: EUT - laying/standing position

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

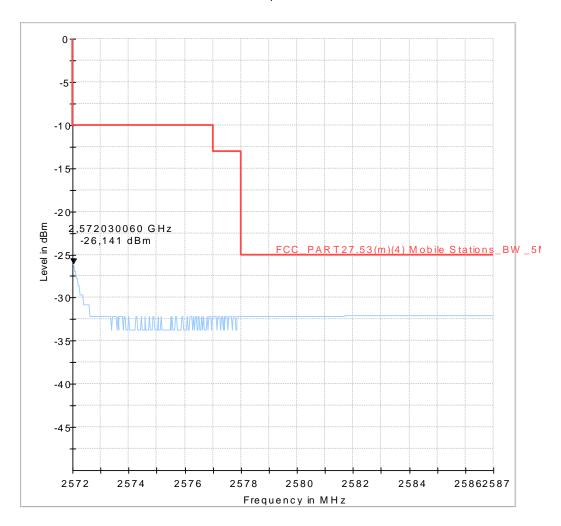
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.35\_BE\_LTE7\_1RB\_High\_CH21425\_QAM

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 21425/ BW: 5MHz/ RB: 1/ Position: high/ QAM

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator: Klv

Remarks: EUT - laying/standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

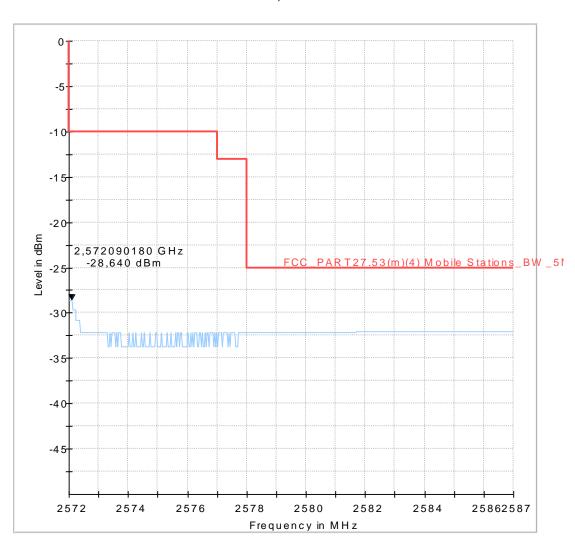
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.36\_BE\_LTE7\_25RB\_High\_CH21425\_QPSK

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 21425/ BW: 5MHz/ RB: 25/ QPSK

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator: Klv

Remarks: EUT - laying/standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

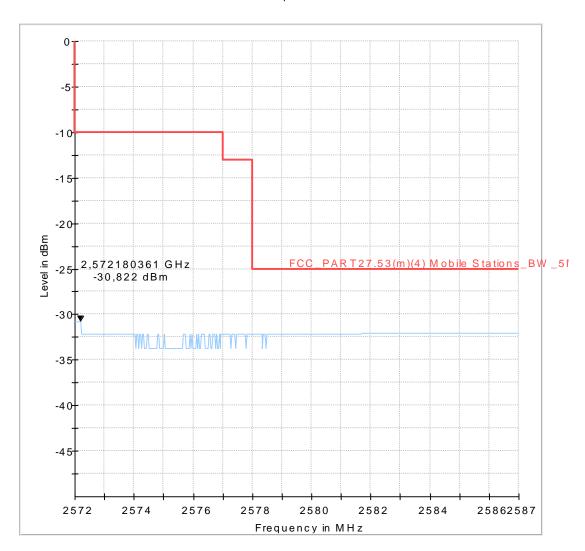
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





# 9.37\_BE\_LTE7\_25RB\_High\_CH21425\_QAM

#### **Common Information**

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band 7

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27.53(I)(4) Mobile stations limits

Operating Mode: UE allocated channel 21425/ BW: 5MHz/ RB: 25/ QAM

Environmental Conditions: Humidity: 35%rH; Temperature: 23°C

Test SW Version: EMC32 V9.26.0

Operator: KIv

Remarks: EUT - laying/standing position

### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

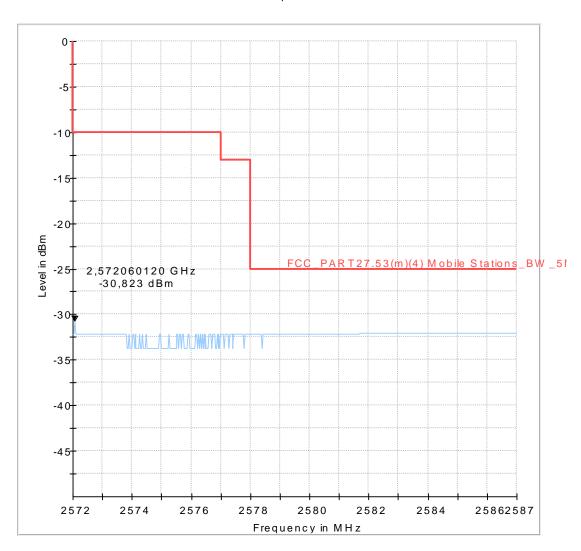
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC





## 1.12. Radiated emissions – band-edge (LTE Band 17)

## 1.12.1. Low Band-Edge

# 9.40\_BE\_LTE17\_1RBLow\_Ch23755\_QPSK

### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE5MHz\_1RBLow\_ModulationQPSK\_CH23755

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RI

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

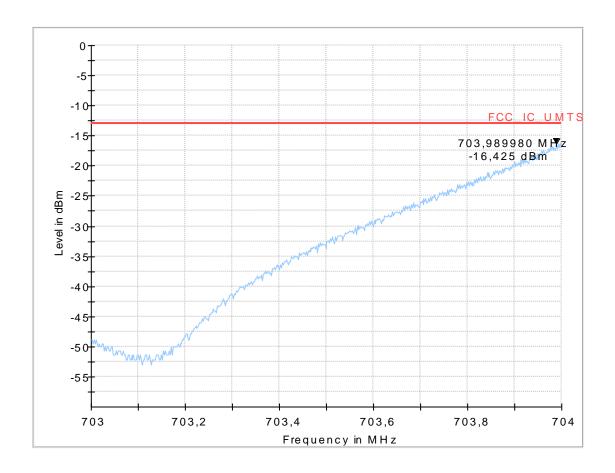
EuT: 66-10777-001

 HW Version:
 9134G05

 SW Version:
 17.02.S.016

SW Version: 17.02.S.016
Serial Number: 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.41\_BE\_LTE17\_1RBLow\_Ch23755\_QAM

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE5MHz\_1RBLow\_ModulationQAM\_CH23755

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

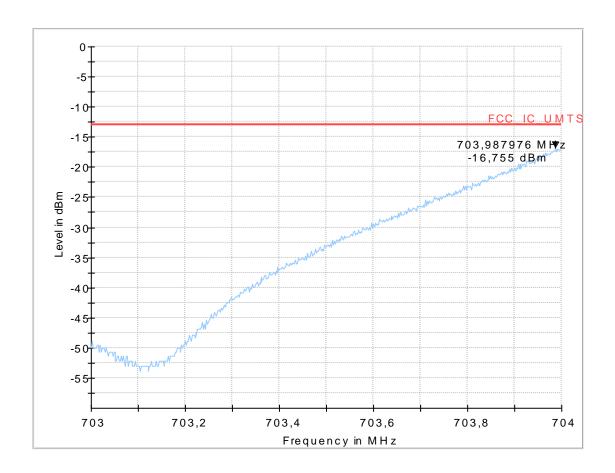
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.42\_BE\_LTE17\_25RBLow\_Ch23755\_QPSK

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE5MHz\_25RBLow\_ModulationQPSK\_CH23755

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

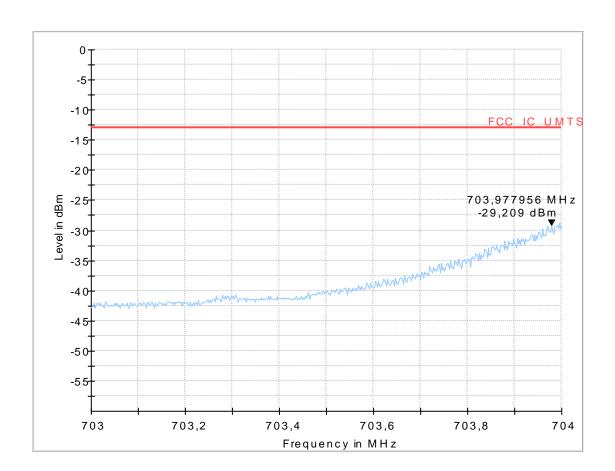
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 9.43\_BE\_LTE17\_25RBLow\_Ch23755\_QAM

#### **Common Information**

Test Description: Radiated Band Edge Compliance LTE B17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)

Test Standard: FCC Part 27

Operating Mode: BE5MHz\_25RBLow\_ModulationQAM\_CH23755

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: RIs

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

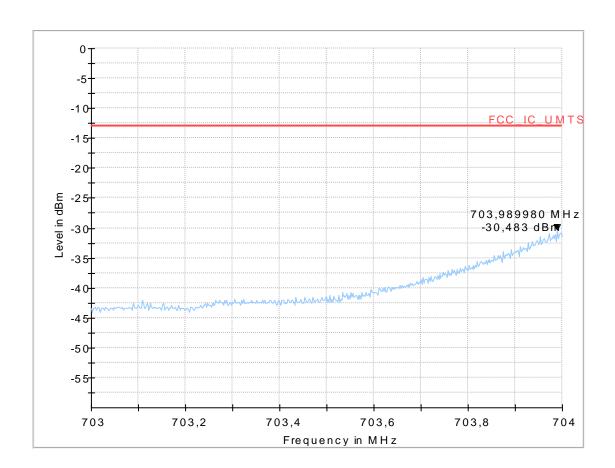
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





## 1.12.2. High Band-Edge

# 9.44\_BE\_R\_Ch23800\_QPSK\_1high\_BW10

#### **Common Information**

Test Description: Band-Edge - Radiated Spurious Emissions LTE Band 17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22 / RSS-133

Operating Mode: BE10MHz\_1high\_ModulationQPSK\_CH23800

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: T

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

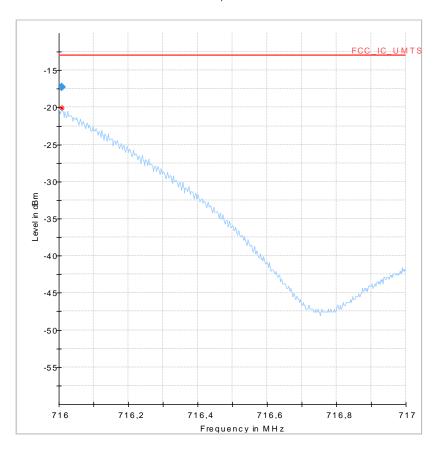
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
716.008016	-	4.32	100.0	Н	179.0	90.0	-77.2



# 9.45\_BE\_R\_Ch23800\_QAM\_1high\_BW10

### **Common Information**

Test Description: Band-Edge - Radiated Spurious Emissions LTE Band 17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22 / RSS-133

Operating Mode: BE10MHz\_1high\_ModulationQAM\_CH23800 Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: TF

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

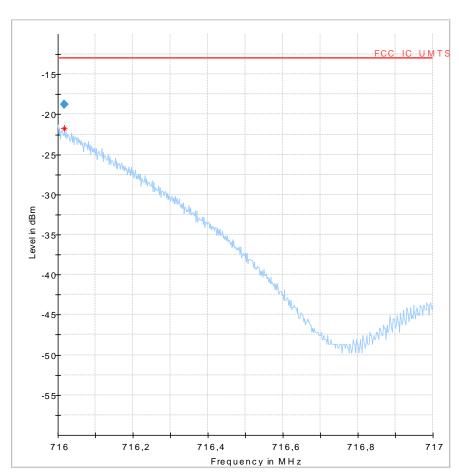
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



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	Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
	716.018036	-	5.74	100.0	Н	178.0	90.0	-77.2



# 9.46\_BE\_R\_Ch23800\_QPSK\_50RB\_BW10

#### **Common Information**

Test Description: Band-Edge - Radiated Spurious Emissions LTE Band 17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22 / RSS-133

Operating Mode: BE10MHz\_50RB\_ModulationQPSK\_CH23800

Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: TFi

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

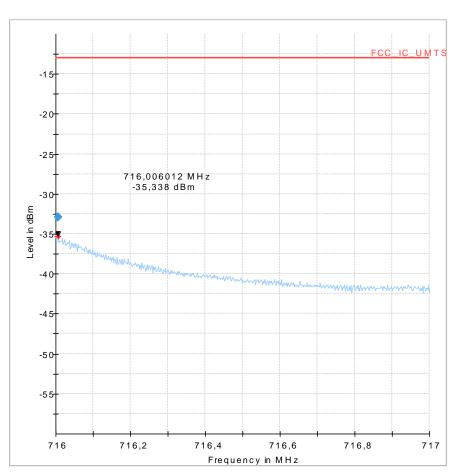
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

### Full Spectrum



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	Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
	716.006012	_	19.90	100.0	Н	186.0	90.0	-77.2



# 9.47\_BE\_R\_Ch23800\_QAM\_50RB\_BW10

#### **Common Information**

Test Description: Band-Edge - Radiated Spurious Emissions LTE Band 17

Test Site Location: CETECOM GmbH Essen
Test Site: Fully Anechoic Room (FAR)
Test Standard: FCC Part 22 / RSS-133

Operating Mode: BE10MHz\_50RB\_ModulationQAM\_CH23800 Environmental Conditions: Humidity: 35%rH; Temperature: 22°C

Operator: TFr

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: 66-10777-001

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 HW Version:
 9134G05

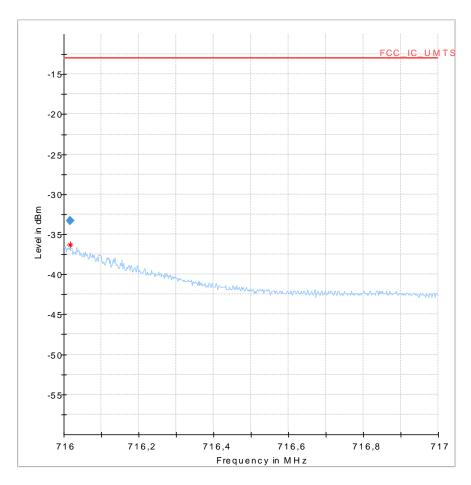
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24V DC

#### Full Spectrum



Frequency (MHz)	Limit (dBm )	Margin (dB)	Meas. Time (ms)	Pol	Azimut h (deg)	Elevatio n (deg)	Corr. (dB)
716.016032	-	20.35	100.0	Н	179.0	90.0	-77.2