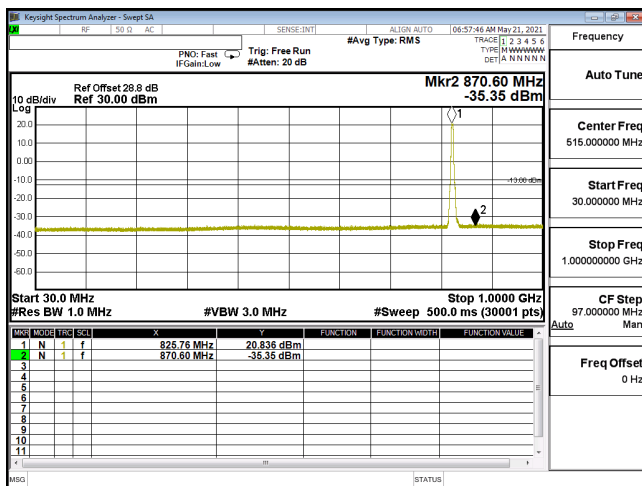
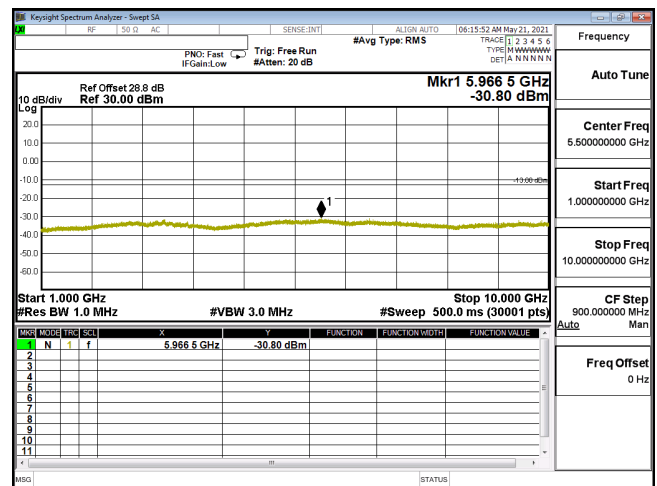
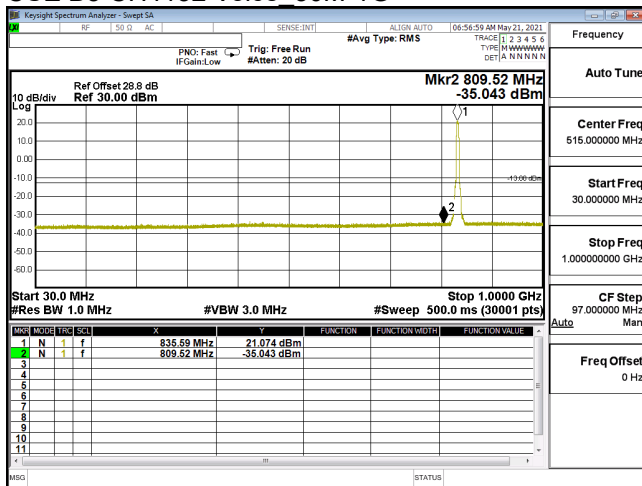




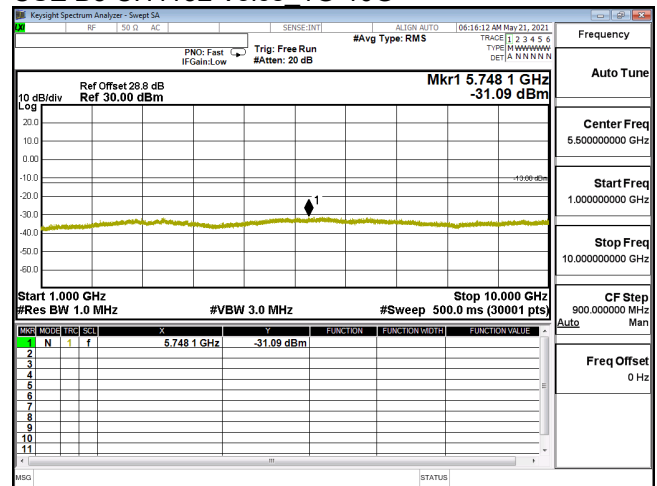
CSE B5 CH4132 Voice 30M-1G



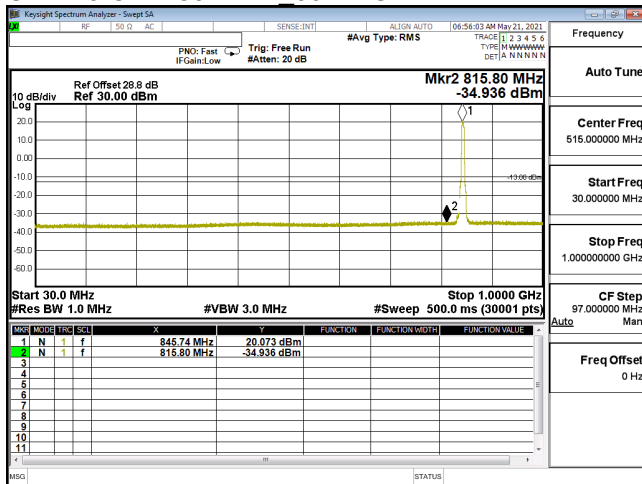
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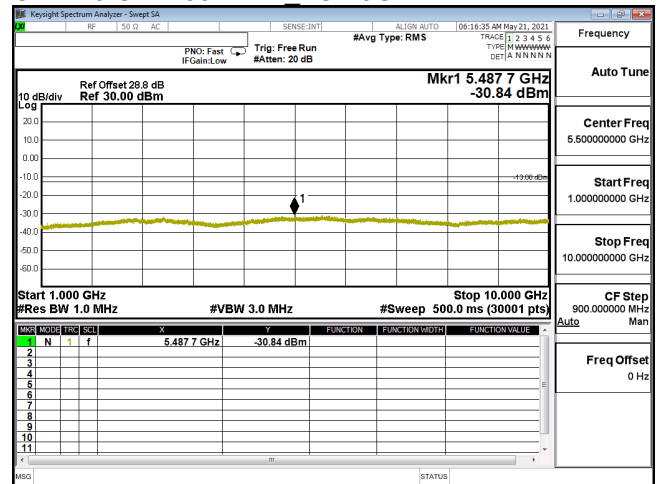
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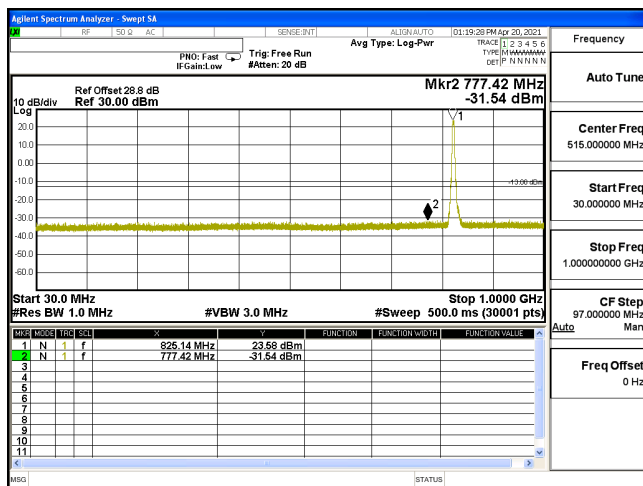
CSE B5 CH4183 Voice 1G-10G



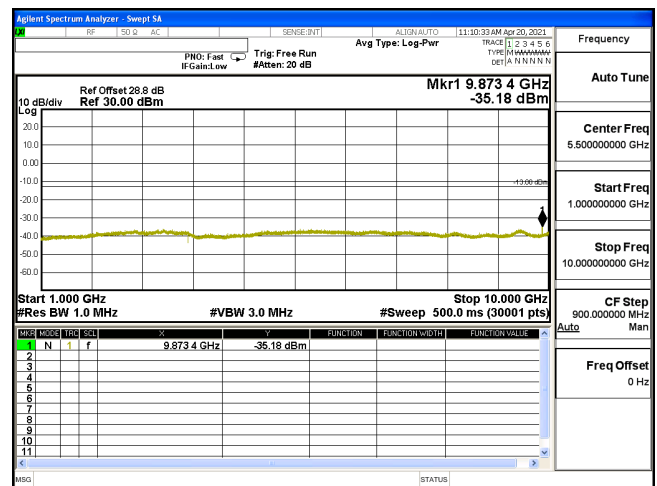
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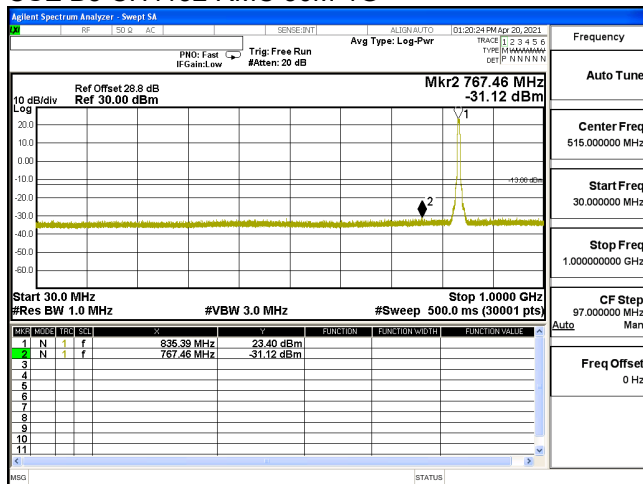
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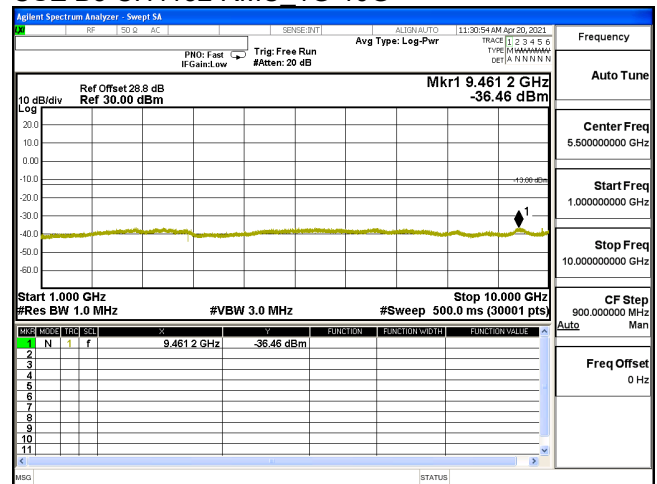
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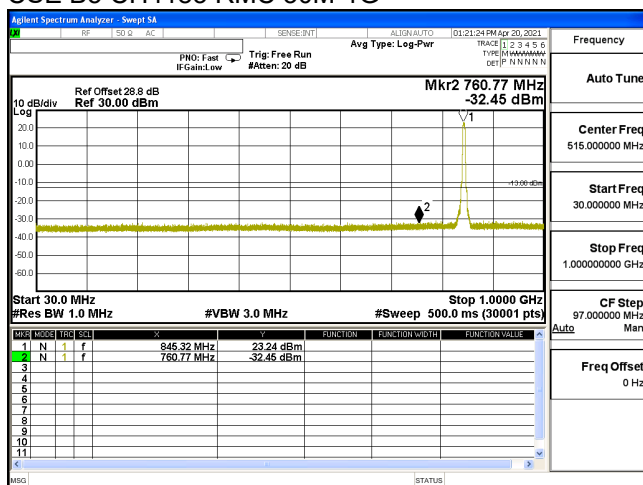
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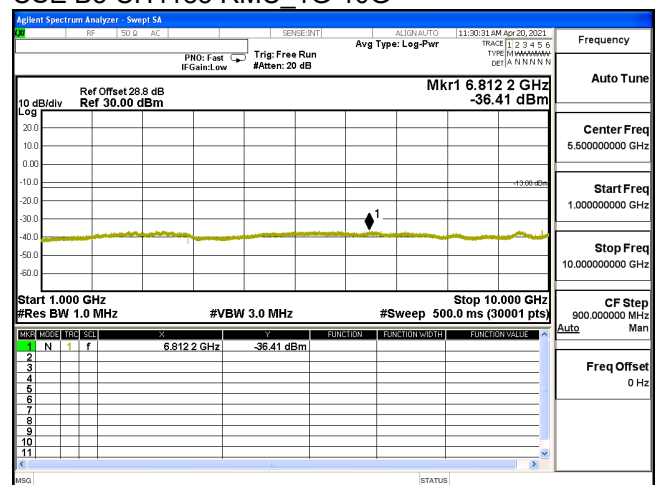
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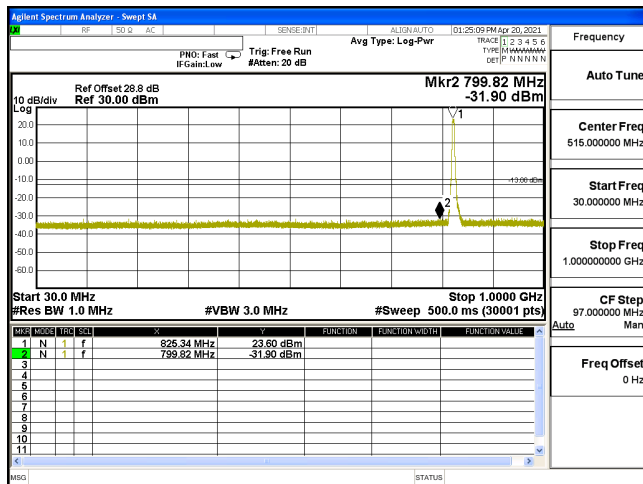
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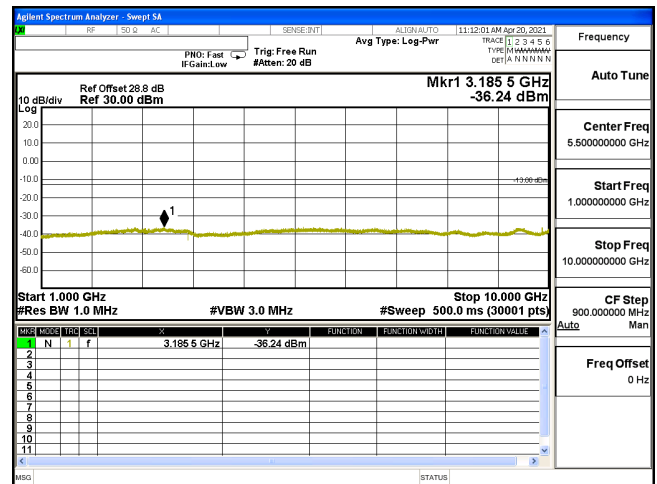
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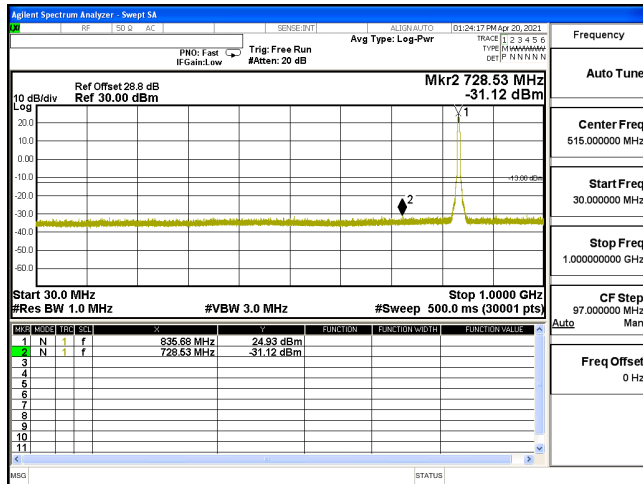
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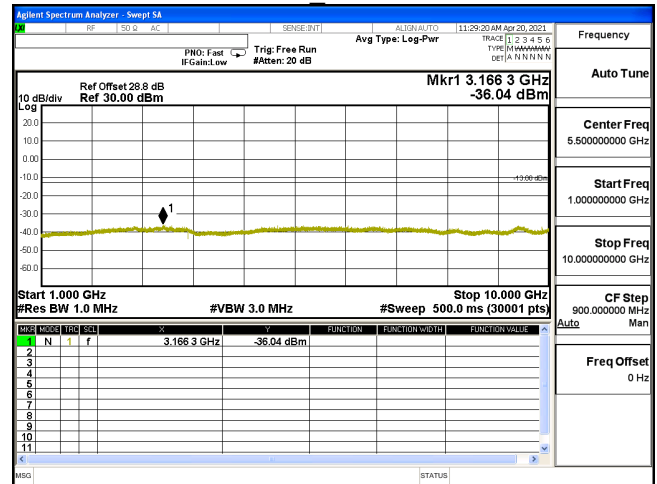
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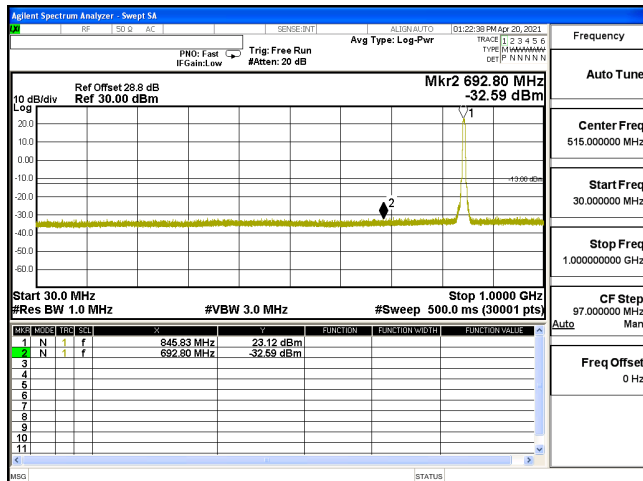
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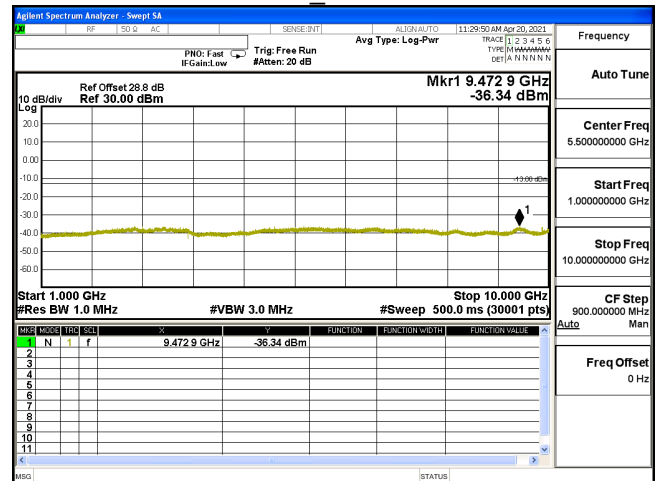
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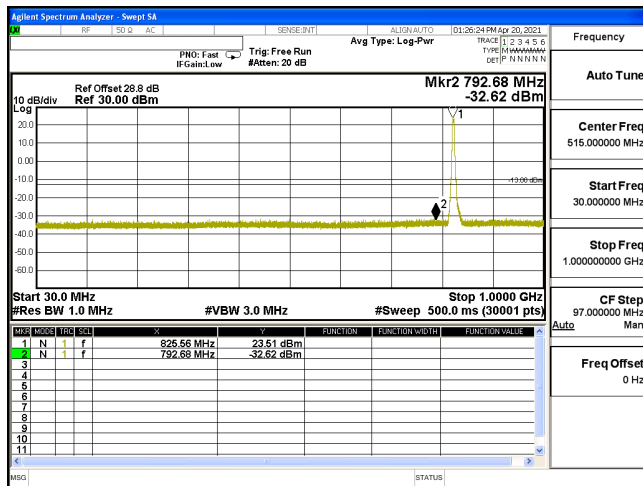
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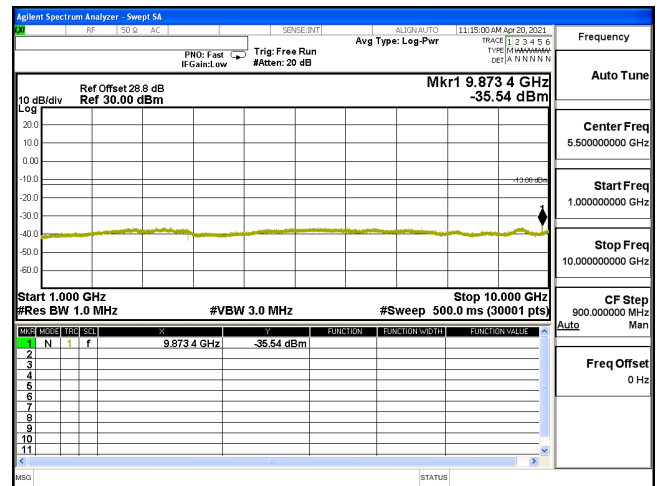
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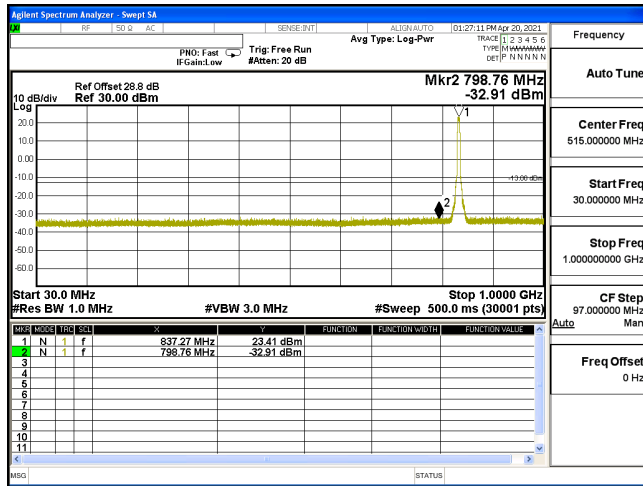
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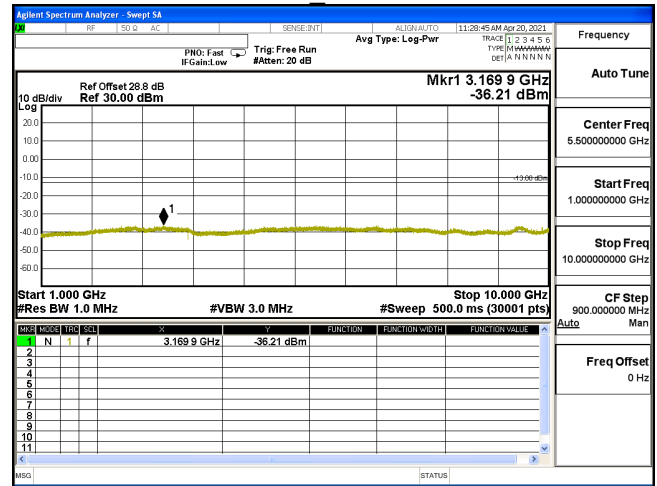
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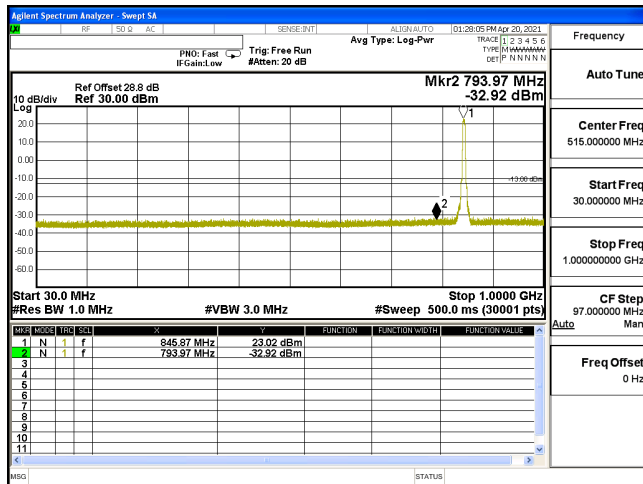
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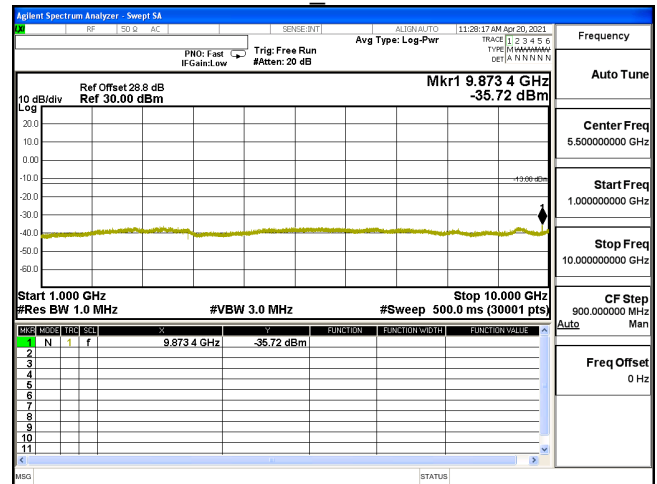
CSE B5 CH4183 HSUPA 30M-1G



CSE B5 CH4183 HSUPA 1G-10G



CSE B5 CH4233 HSUPA 30M-1G



CSE B5 CH4233 HSUPA 1G-10G

Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Spurious Emission (Radiated) - Multi Band Dipole Antenna (STAF)		
Date of Test	2021/06/10	Test Site	OATS 3
Test Condition	WCDMA BAND 2	Test Range	9kHz~20GHz

Polarity	Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
	(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)
Low Channel: 9262, Frequency: 1852.4MHz							
Horizontal	3705	-46.92	-59.26	2.73	12.63	-49.37	-13
Horizontal	5557	-35.15	-42.66	3.17	12.28	-33.56	-13
Horizontal	7410	-57.17	-61.63	3.88	11.90	-53.61	-13
Vertical	3705	-53.03	-65.69	2.73	12.63	-55.80	-13
Vertical	5557	-45.41	-53.58	3.17	12.28	-44.47	-13
Vertical	7410	-56.74	-61.15	3.88	11.90	-53.12	-13
Mid Channel: 9400, Frequency: 1880MHz							
Horizontal	3760	-48.12	-59.89	2.74	12.6	-50.00	-13
Horizontal	5640	-36.36	-43.34	3.20	12.1	-34.45	-13
Horizontal	7520	-56.43	-61.05	3.85	12.0	-52.90	-13
Vertical	3760	-51.84	-64.02	2.74	12.6	-54.13	-13
Vertical	5640	-45.45	-53.14	3.20	12.1	-44.25	-13
Vertical	7520	-56.72	-61.18	3.85	12.0	-53.03	-13
High Channel: 9538, Frequency: 1907.6MHz							
Horizontal	3815	-47.43	-58.75	2.75	12.6	-48.86	-13
Horizontal	5723	-36.33	-42.85	3.25	12.0	-34.08	-13
Horizontal	7630	-56.47	-61.14	3.85	12.0	-52.99	-13
Vertical	3815	-51.25	-63.20	2.75	12.6	-53.31	-13
Vertical	5723	-44.90	-51.70	3.25	12.0	-42.93	-13
Vertical	7630	-56.37	-61.11	3.85	12.0	-52.96	-13

Note:

1. Receiver setting (Peak Detector) : RBW:1MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 8GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Spurious Emission (Radiated) - Multi Band Dipole Antenna (STAF)		
Date of Test	2021/06/10	Test Site	OATS 3
Test Condition	WCDMA BAND 4	Test Range	9kHz~18GHz

Polarity	Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
	(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)
Low Channel: 1312, Frequency: 1712.4MHz							
Horizontal	3425	-49.81	-63.32	2.52	12.6	-53.26	-13
Horizontal	5137	-39.47	-47.33	3.28	12.5	-38.11	-13
Horizontal	6850	-56.85	-61.04	3.64	11.5	-53.18	-13
Vertical	3425	-52.02	-65.75	2.52	12.6	-55.69	-13
Vertical	5137	-46.25	-54.76	3.28	12.5	-45.54	-13
Vertical	6850	-56.27	-60.79	3.64	11.5	-52.93	-13
Mid Channel: 1413, Frequency: 1732.6MHz							
Horizontal	3465	-48.61	-61.59	2.53	12.6	-51.52	-13
Horizontal	5198	-39.79	-48.28	3.11	12.9	-38.45	-13
Horizontal	6930	-56.28	-60.59	3.65	11.5	-52.74	-13
Vertical	3465	-50.97	-64.44	2.53	12.6	-54.37	-13
Vertical	5198	-47.22	-56.11	3.11	12.9	-46.28	-13
Vertical	6930	-56.10	-60.65	3.65	11.5	-52.80	-13
Mid Channel: 1513, Frequency: 1752.6MHz							
Horizontal	3505	-50.49	-62.85	2.65	12.6	-52.90	-13
Horizontal	5258	-38.80	-47.16	3.06	13.0	-37.22	-13
Horizontal	7010	-54.05	-58.35	3.89	11.5	-50.74	-13
Vertical	3505	-51.05	-64.08	2.65	12.6	-54.13	-13
Vertical	5258	-46.73	-55.99	3.06	13.0	-46.05	-13
Vertical	7010	-55.08	-59.42	3.89	11.5	-51.81	-13

Note:

1. Receiver setting (Peak Detector) : RBW:1MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 8GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Spurious Emission (Radiated) - Multi Band Dipole Antenna (STAF)		
Date of Test	2021/06/10	Test Site	OATS 3
Test Condition	WCDMA BAND 5	Test Range	9kHz~10GHz

Polarity	Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
	(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)
Low Channel: 4132, Frequency: 826.4MHz							
Horizontal	1653	-52.15	-69.40	1.79	10.1	-61.12	-13
Horizontal	2479	-44.78	-60.78	3.00	13.0	-50.81	-13
Horizontal	3306	-52.45	-66.14	2.49	12.5	-56.10	-13
Vertical	1653	-51.77	-68.92	1.79	10.1	-60.64	-13
Vertical	2479	-53.09	-68.36	3.00	13.0	-58.39	-13
Vertical	3306	-51.98	-65.97	2.49	12.5	-55.93	-13
Mid Channel: 4183, Frequency: 836.6MHz							
Horizontal	1673	-46.86	-63.94	1.81	10.1	-55.65	-13
Horizontal	2510	-35.89	-52.12	3.03	13.1	-42.08	-13
Horizontal	3346	-52.35	-66.10	2.50	12.5	-56.05	-13
Vertical	1673	-52.24	-69.10	1.81	10.1	-60.80	-13
Vertical	2510	-51.65	-67.23	3.03	13.1	-57.19	-13
Vertical	3346	-51.95	-65.90	2.50	12.5	-55.85	-13
Mid Channel: 4233, Frequency: 846.6MHz							
Horizontal	1693	-47.34	-64.25	1.82	10.1	-55.95	-13
Horizontal	2540	-41.21	-57.31	2.96	13.0	-47.27	-13
Horizontal	3386	-52.32	-66.14	2.51	12.6	-56.08	-13
Vertical	1693	-50.38	-66.95	1.82	10.1	-58.64	-13
Vertical	2540	-48.50	-64.04	2.96	13.0	-54.00	-13
Vertical	3386	-52.22	-66.13	2.51	12.6	-56.08	-13

Note:

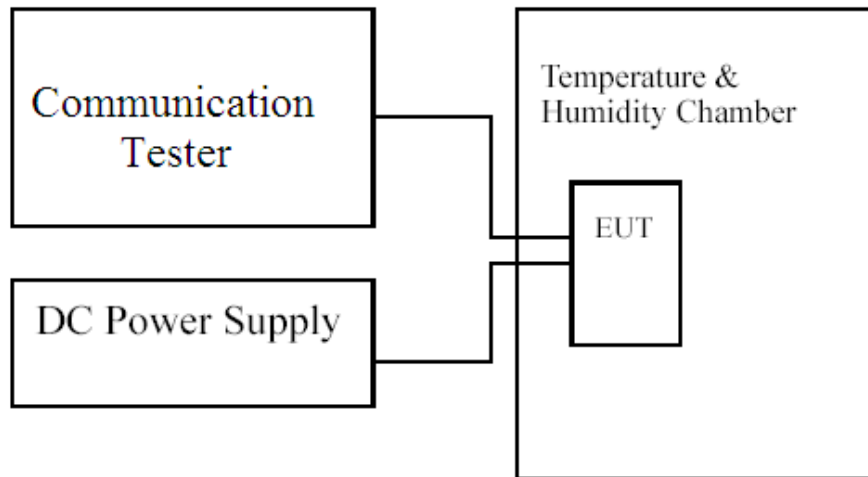
1. Receiver setting (Peak Detector) : RBW:1MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 4GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

7. Frequency Stability Under Temperature & Voltage Variations

7.1. Test Specification

According to Part 2.1055, 22.355, 24.235, 27.54.

7.2. Test Setup



7.3. Limits

Limit	$\leq \pm 2.5 \text{ ppm}$
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7.4. Test Procedure

The frequency stability of transmitter is measured by:

- Temperature: The temperature is varied from -30°C to 50°C in 10°C increment using a standard temperature & Humidity chamber.
- Primary Supply Voltage: The primary supply voltage is varied 85% to 115% of the nominal value for non hand-carried equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating endpoint which shall be specified by the manufacturer.

The EUT was connected via the base station simulator. Universal Radio Communication Tester, was used to measure The Frequency Error. The maximum result of measurements was recorded.

7.5. Test Result of Frequency Stability Under Temperature Variations

Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2021/06/11	Test Site	CTR
Test Condition	WCDMA BAND 2	Test Range	-30°C~+50°C

Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)				Limit (kHz)
		VOICE	RMC	HSDPA	HSUPA	
-30	Mid	0.011	0.012	0.014	0.019	±4.71
-20	Mid	0.011	0.011	0.011	0.018	±4.71
-10	Mid	0.010	0.011	0.013	0.011	±4.71
0	Mid	0.010	0.011	0.011	0.013	±4.71
10	Mid	0.008	0.010	0.012	0.014	±4.71
20	Mid	0.012	0.012	0.013	0.012	±4.71
30	Mid	0.009	0.010	0.012	0.010	±4.71
40	Mid	0.009	0.010	0.011	0.011	±4.71
50	Mid	0.008	0.009	0.010	0.011	±4.71

Voltage Variations

DC Voltage (V)	Test Channel	Deviation (kHz)				Limit (kHz)
		VOICE	RMC	HSDPA	HSUPA	
4.45	Mid	0.017	0.011	0.012	0.016	±4.71
3.85	Mid	0.012	0.012	0.013	0.012	±4.71
3.6	Mid	0.011	0.015	0.012	0.014	±4.71

DC Current (A)	VOICE	RMC	HSDPA	HSUPA
LINK	0.68	0.91	0.81	0.88
IDLE	0.11	0.14	0.13	0.12

Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2021/06/11	Test Site	CTR
Test Condition	WCDMA BAND 4	Test Range	-30°C~+50°C

Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)				Limit (kHz)
		VOICE	RMC	HSDPA	HSUPA	
-30	Mid	0.008	0.008	0.015	0.012	±4.33
-20	Mid	0.009	0.011	0.011	0.007	±4.33
-10	Mid	0.009	0.010	0.010	0.011	±4.33
0	Mid	0.010	0.008	0.009	0.009	±4.33
10	Mid	0.007	0.008	0.009	0.009	±4.33
20	Mid	0.010	0.008	0.008	-0.017	±4.33
30	Mid	0.008	-0.007	0.010	0.009	±4.33
40	Mid	0.008	0.008	0.008	0.007	±4.33
50	Mid	0.007	0.006	0.009	0.006	±4.33

Voltage Variations

DC Voltage (V)	Test Channel	Deviation (kHz)				Limit (kHz)
		VOICE	RMC	HSDPA	HSUPA	
4.45	Mid	0.007	-0.009	0.007	0.009	±4.33
3.85	Mid	0.010	0.008	0.008	-0.017	±4.33
3.6	Mid	-0.006	0.007	0.013	0.008	±4.33

DC Current (A)	VOICE	RMC	HSDPA	HSUPA
LINK	0.91	0.99	0.86	0.83
IDLE	0.11	0.10	0.12	0.16

Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2021/06/11	Test Site	CTR
Test Condition	WCDMA BAND 5	Test Range	-30°C~+50°C

Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)				Limit (kHz)
		VOICE	RMC	HSDPA	HSUPA	
-30	Mid	-0.006	0.004	-0.004	0.010	±2.09
-20	Mid	-0.003	0.003	0.008	0.005	±2.09
-10	Mid	0.004	0.004	0.004	0.004	±2.09
0	Mid	0.003	0.003	0.005	0.005	±2.09
10	Mid	0.003	0.003	0.005	0.004	±2.09
20	Mid	0.006	0.006	0.007	0.008	±2.09
30	Mid	-0.004	-0.003	0.004	-0.004	±2.09
40	Mid	-0.004	-0.004	-0.006	0.004	±2.09
50	Mid	-0.004	-0.004	0.005	-0.003	±2.09

Voltage Variations

DC Voltage (V)	Test Channel	Deviation (kHz)				Limit (kHz)
		VOICE	RMC	HSDPA	HSUPA	
4.45	Mid	-0.008	-0.007	0.007	0.011	±2.09
3.85	Mid	0.006	0.006	0.007	0.008	±2.09
3.6	Mid	-0.005	-0.006	0.007	0.007	±2.09

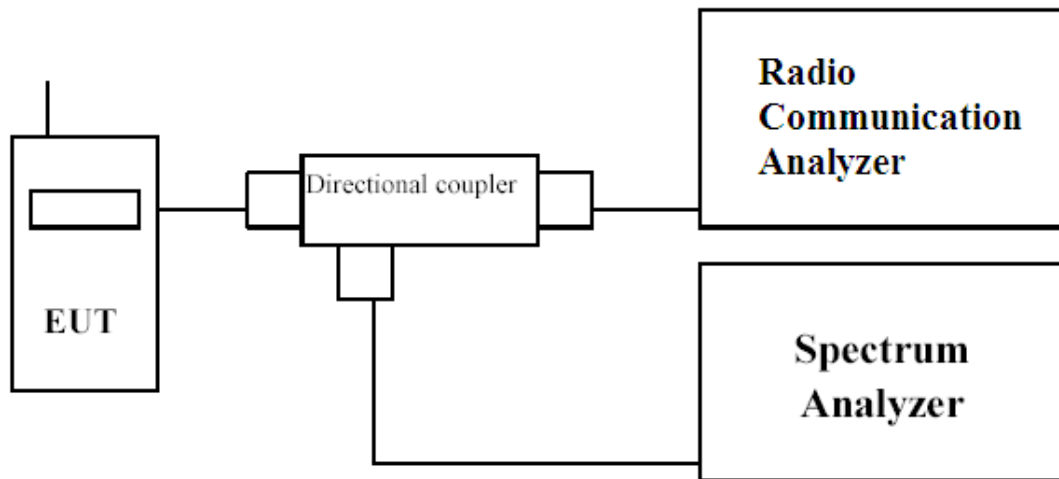
DC Current (A)	VOICE	RMC	HSDPA	HSUPA
LINK	0.74	0.82	0.75	0.69
IDLE	0.10	0.13	0.17	0.14

8. Peak to Average Ratio

8.1 Test Specification

According to Part 22.913, 24.232, 27.50.

8.2 Test Setup



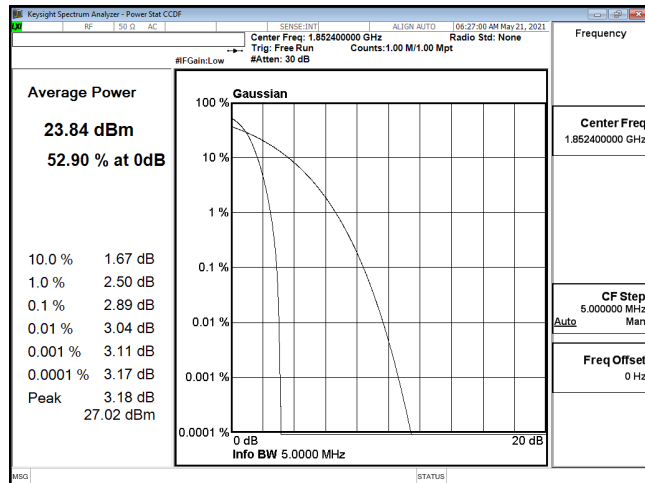
8.3 Limits

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure.

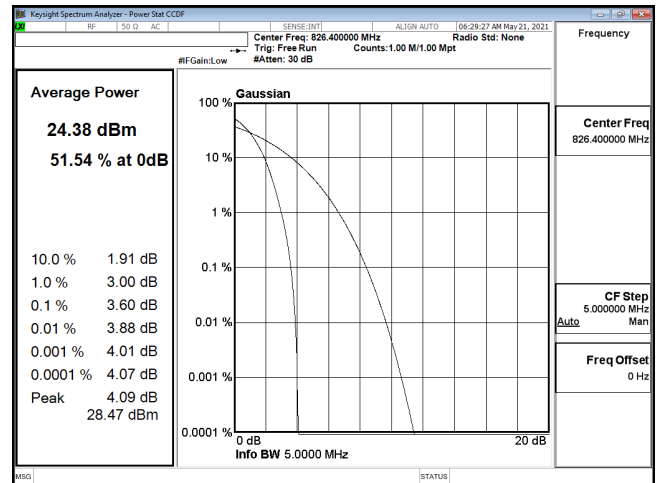
8.4 Test Procedure

- Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Set the measurement interval as follows:
 - for continuous transmissions, set to 1 ms,
 - for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
- Record the maximum PAPR level associated with a probability of 0.1%.

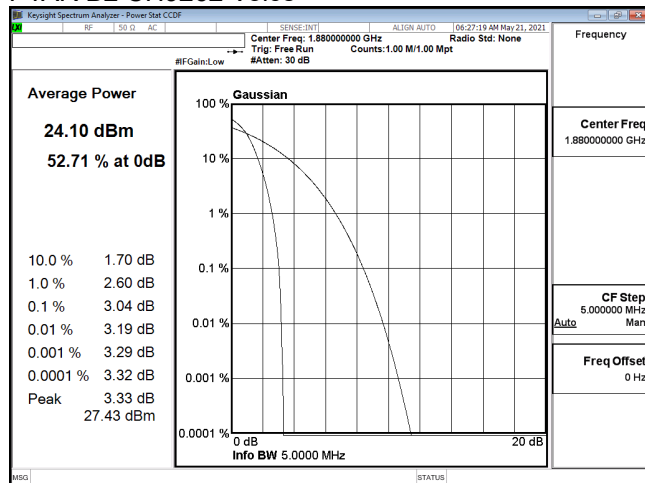
Product	WCDMA/LTE/5G Mobile Phone		
Test Mode	Peak to Average Ratio		
Date of Test	2021/05/21	Test Site	CTR
Test Condition	WCDMA Band2/4/5		



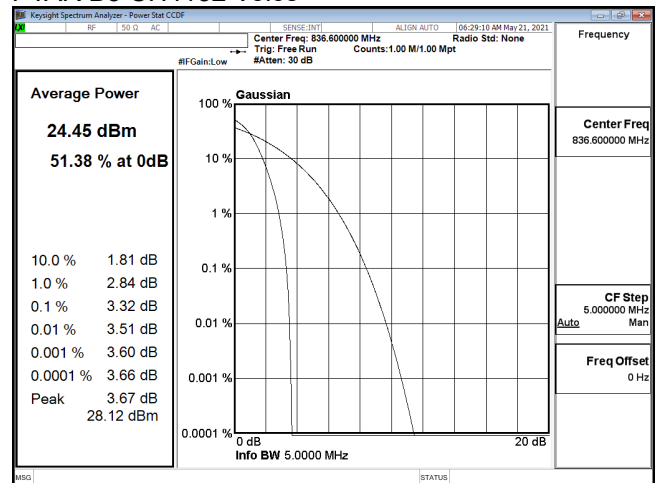
PTAR B2 CH9262 Voice



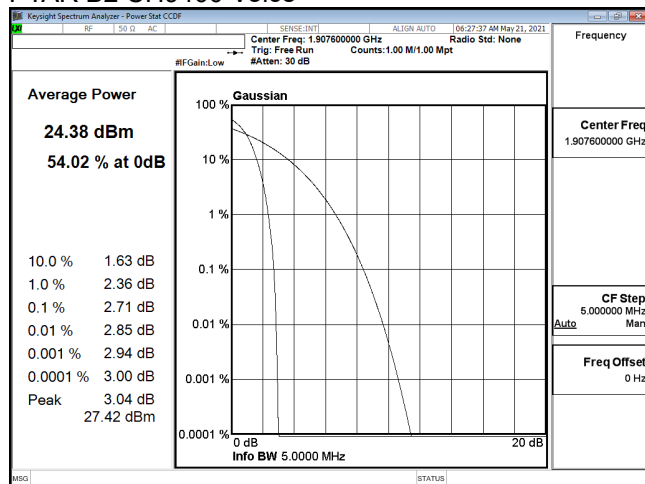
PTAR B5 CH4132 Voice



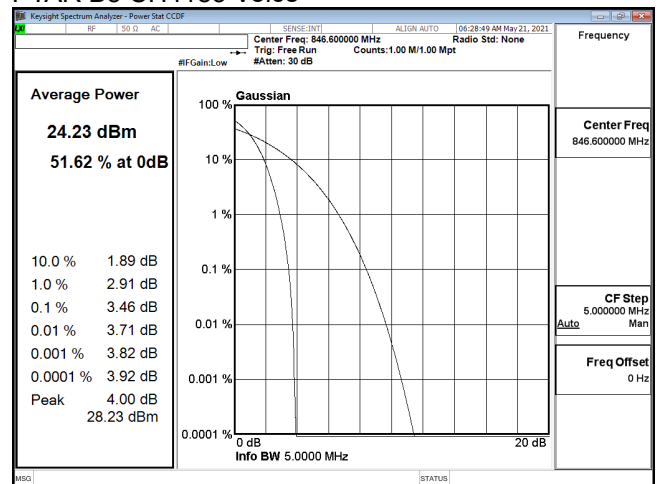
PTAR B2 CH9400 Voice



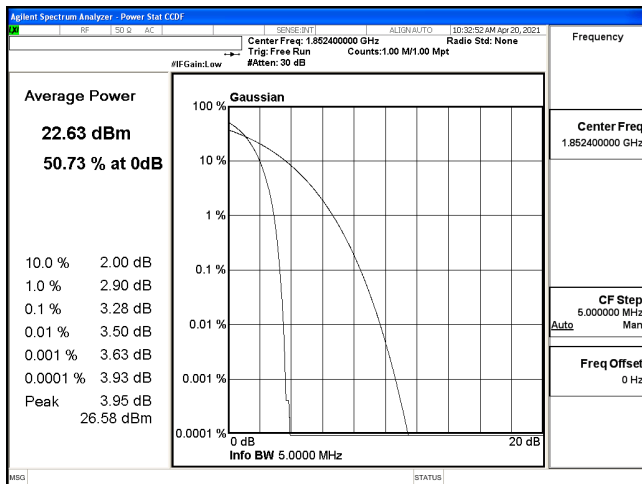
PTAR B5 CH4183 Voice



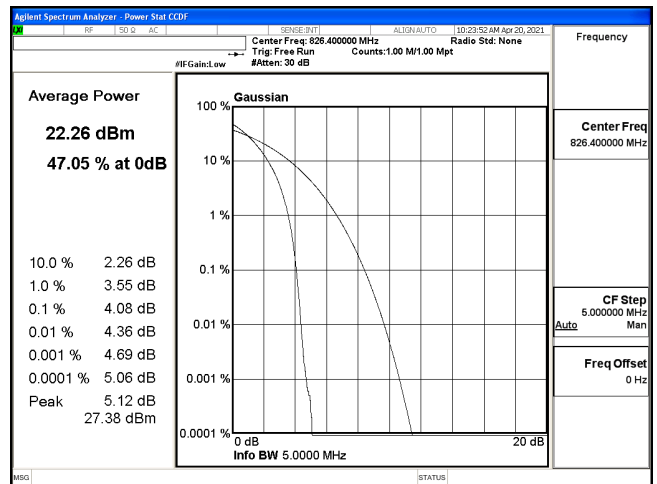
PTAR B2 CH9538 Voice



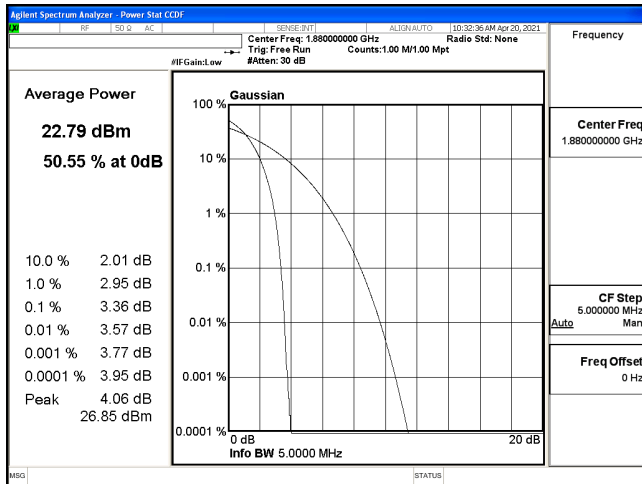
PTAR B5 CH4233 Voice



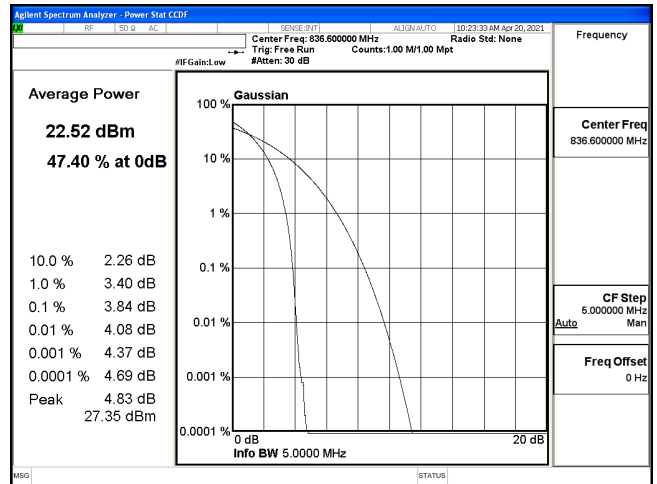
PTAR B2 CH9262 RMC



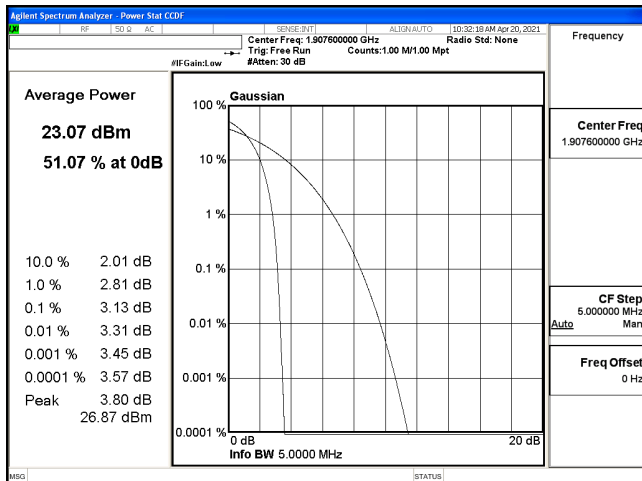
PTAR B5 CH4132 RMC



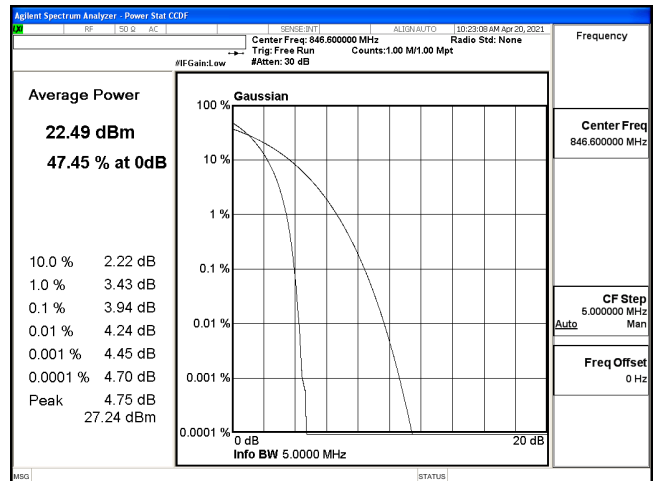
PTAR B2 CH9400 RMC



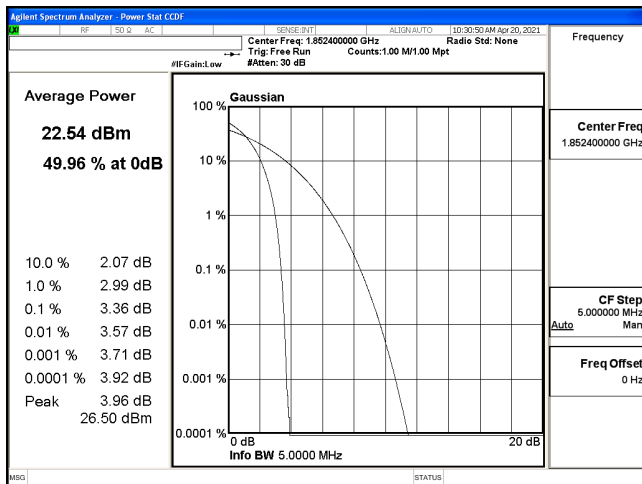
PTAR B5 CH4183 RMC



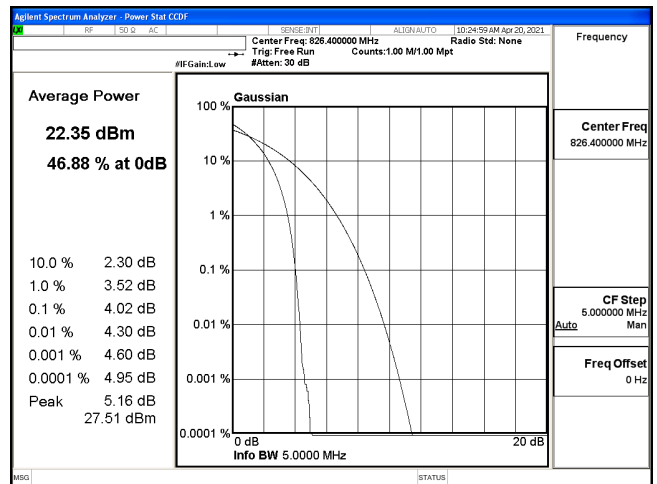
PTAR B2 CH9538 RMC



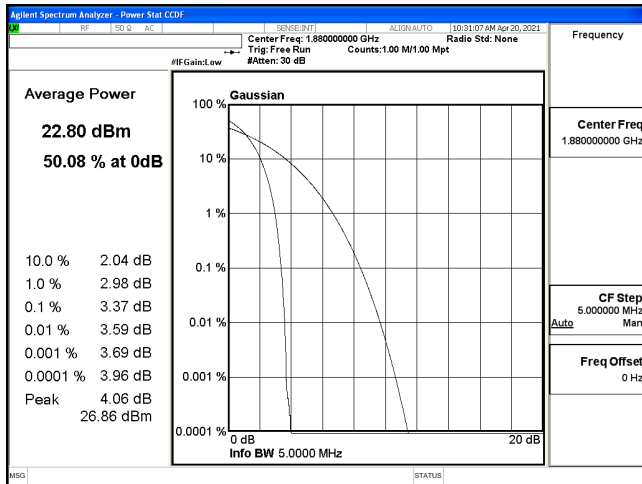
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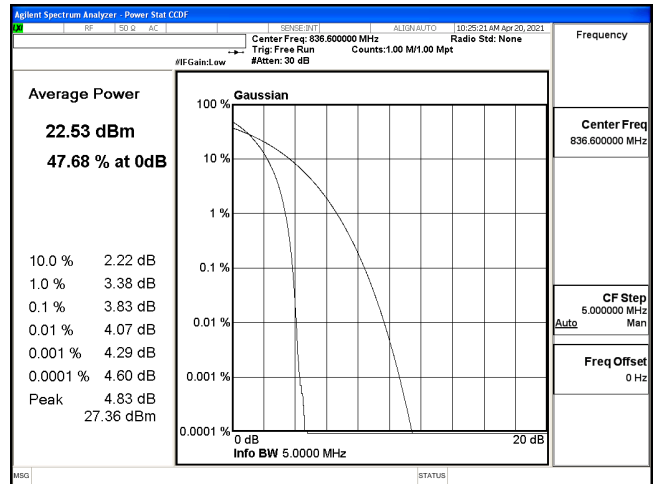
PTAR B2 CH9262 HSDPA



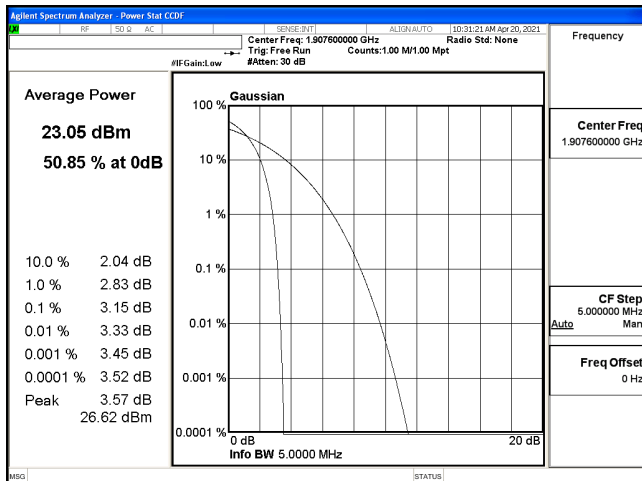
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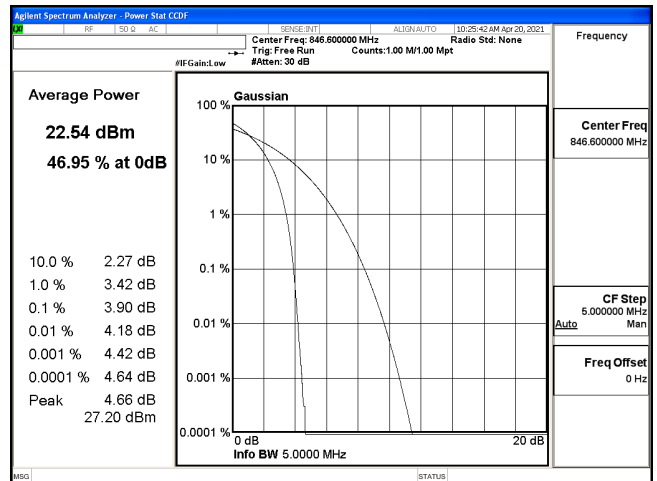
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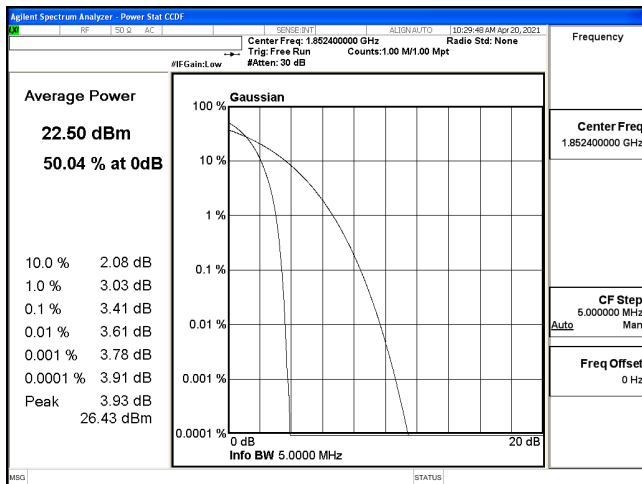
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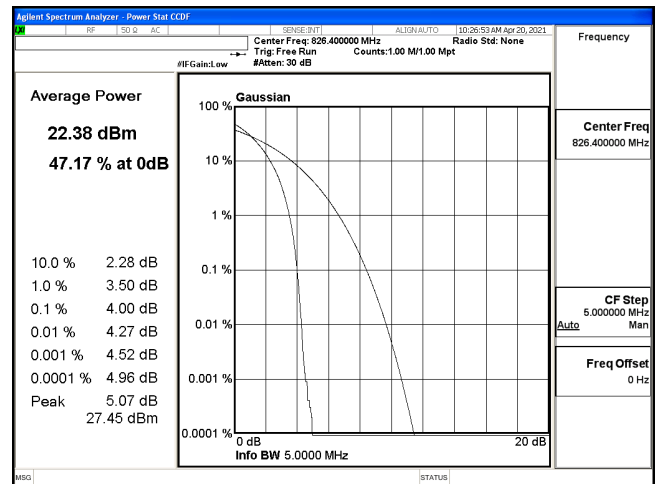
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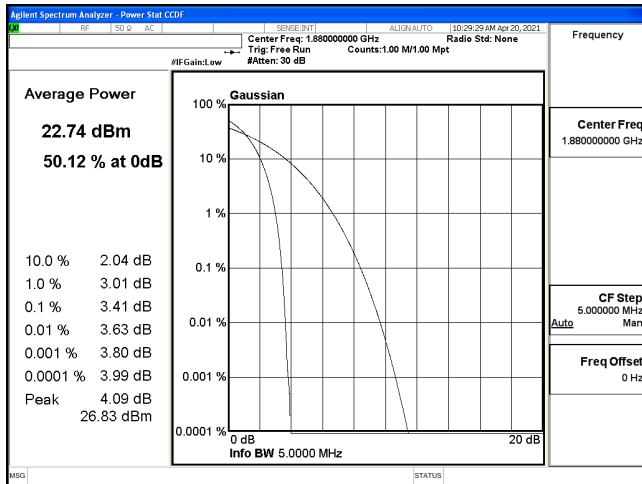
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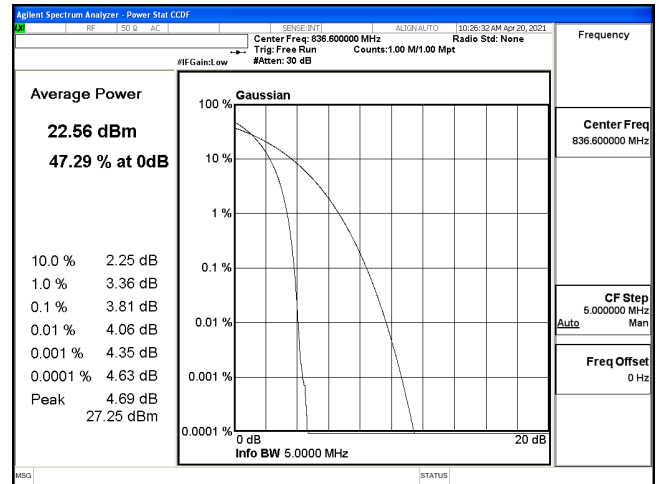
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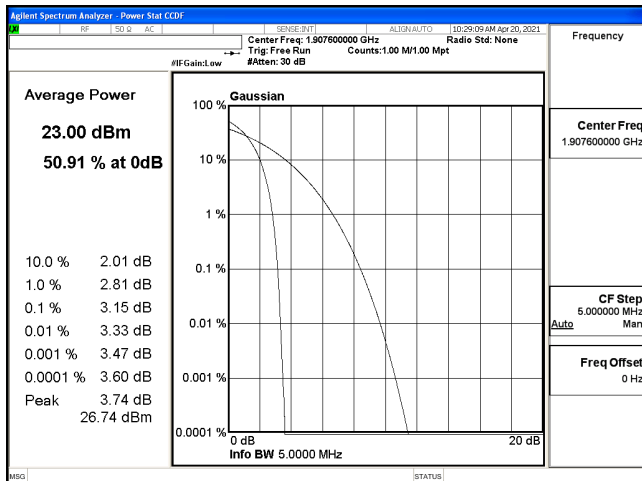
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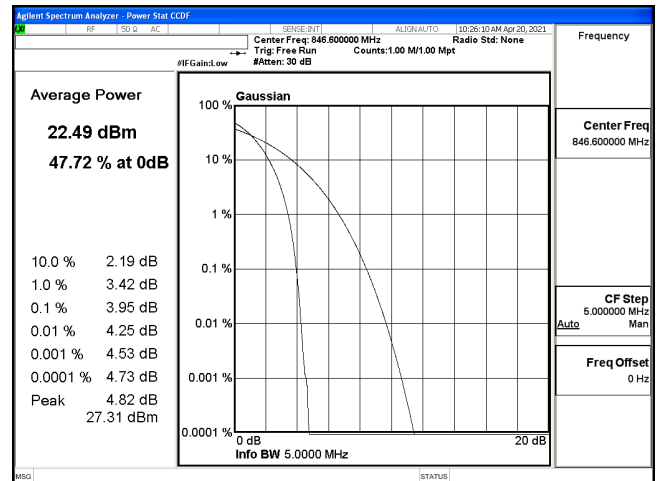
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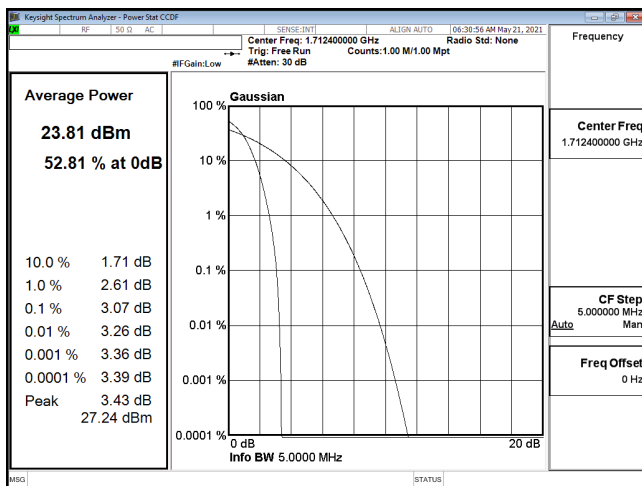
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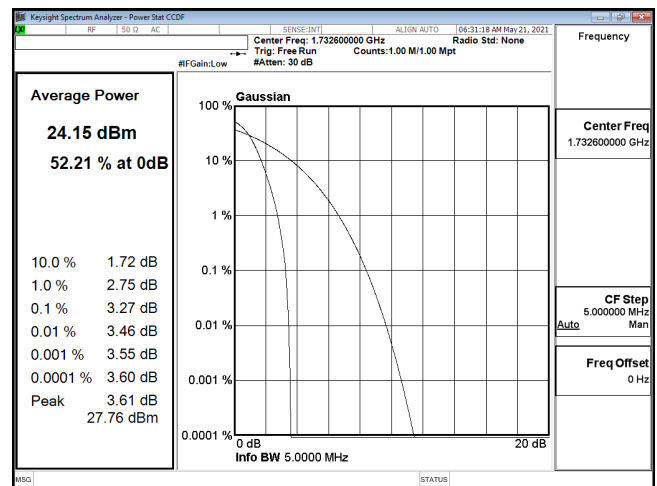
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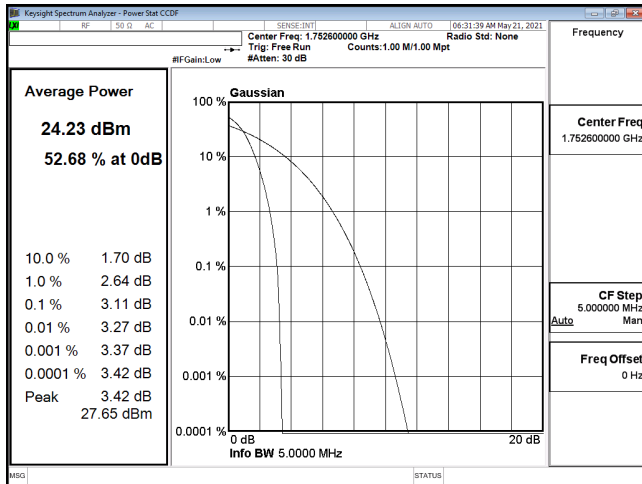
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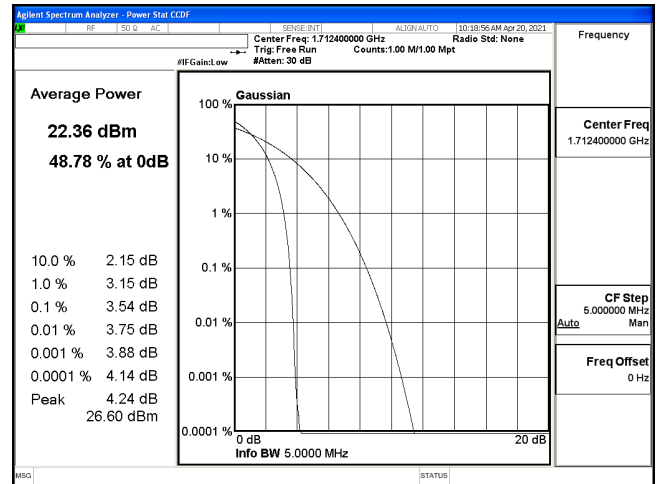
PTAR B4 CH1312 Voice



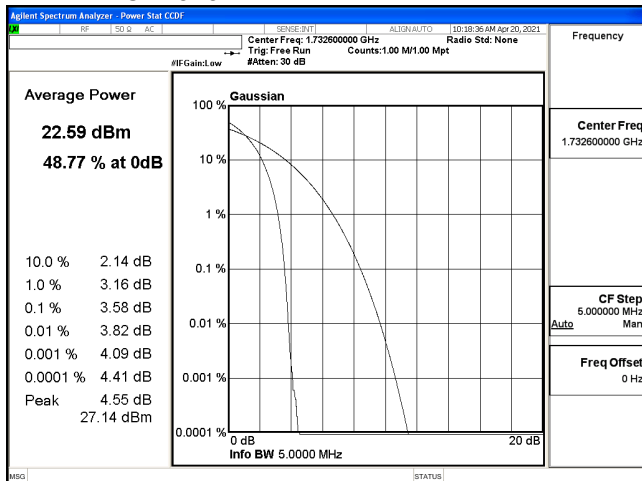
PTAR B4 CH1413 Voice



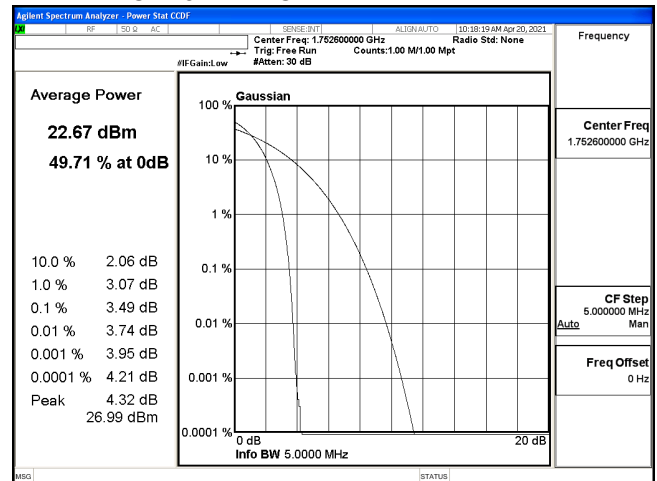
PTAR B4 CH1312 RMC



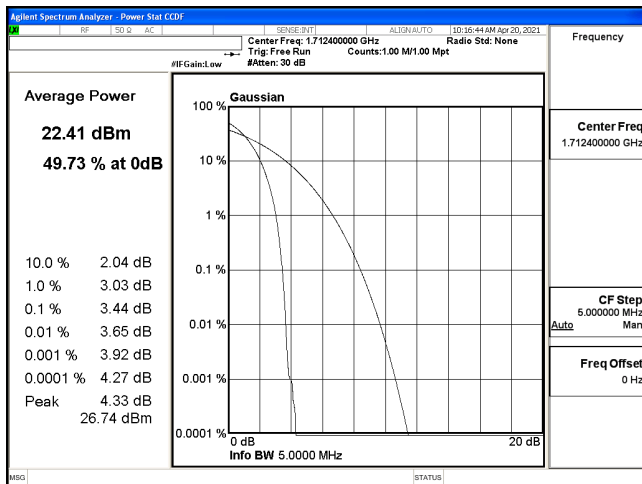
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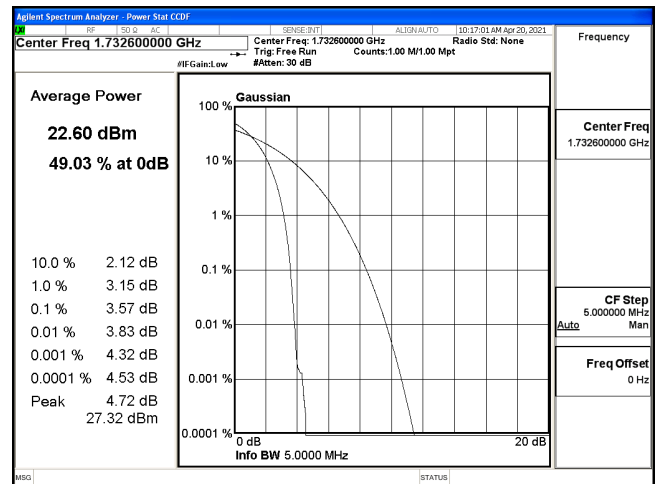
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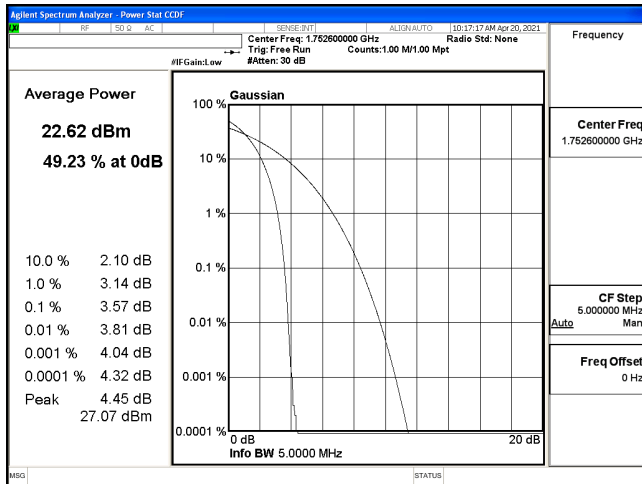
PTAR B4 CH1413 Voice



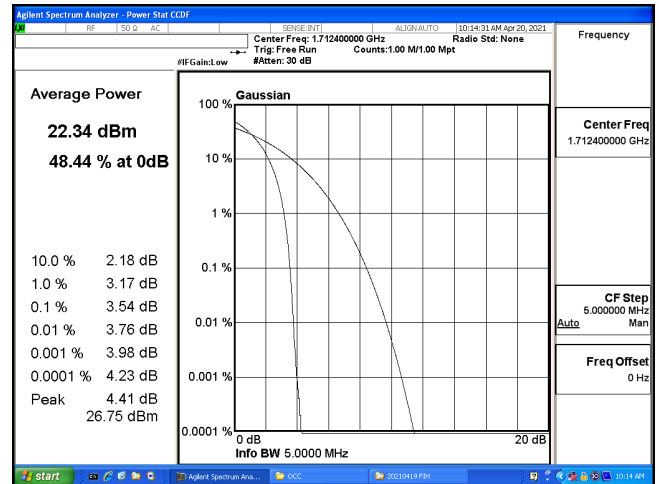
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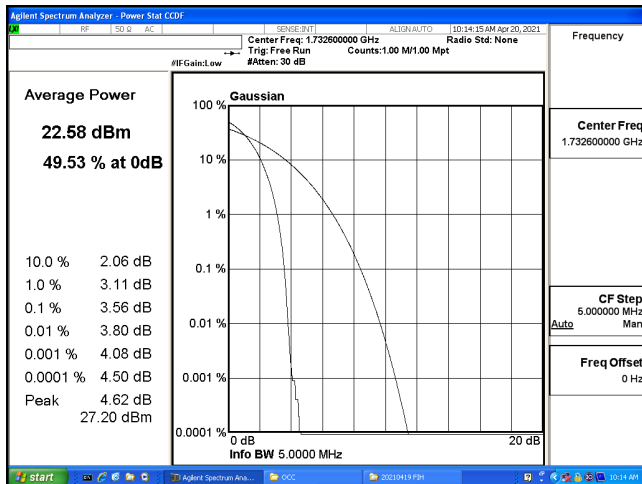
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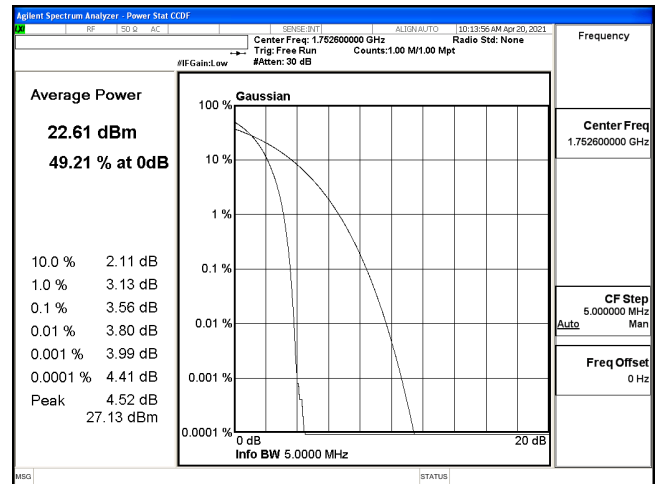
PTAR B4 CH1513 HSDPA



PTAR B4 CH1312 HSUPA



PTAR B4 CH1413 HSUPA



PTAR B4 CH1513 HSUPA