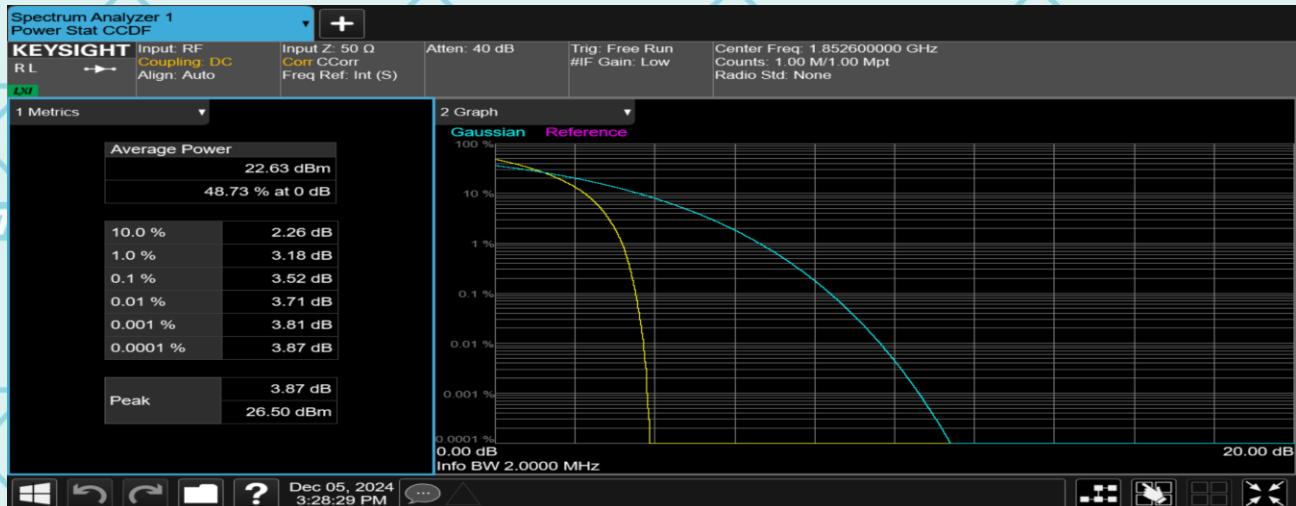
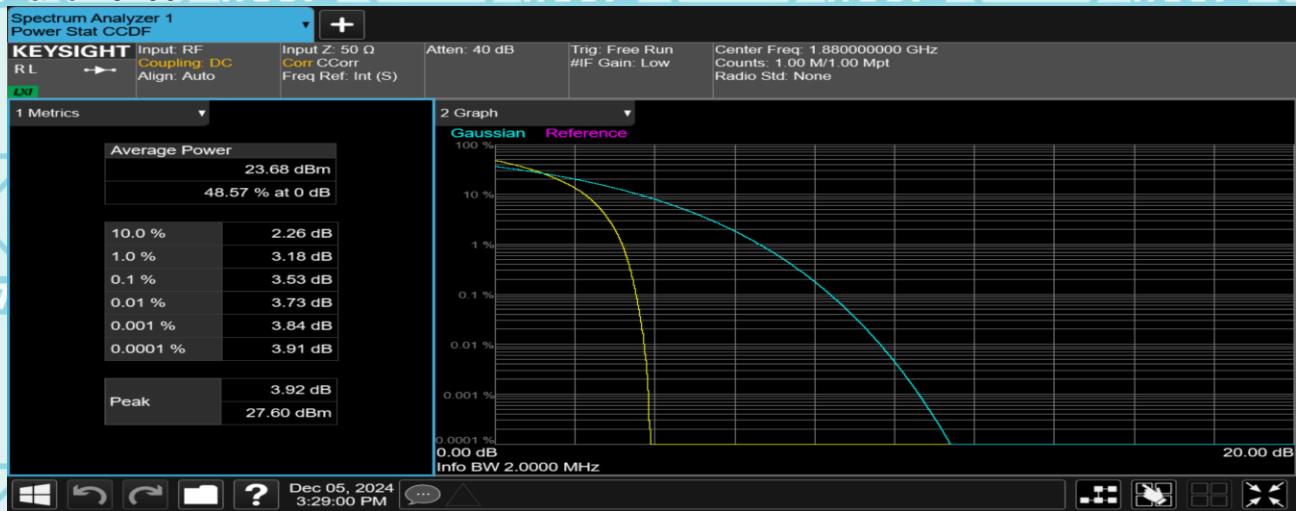


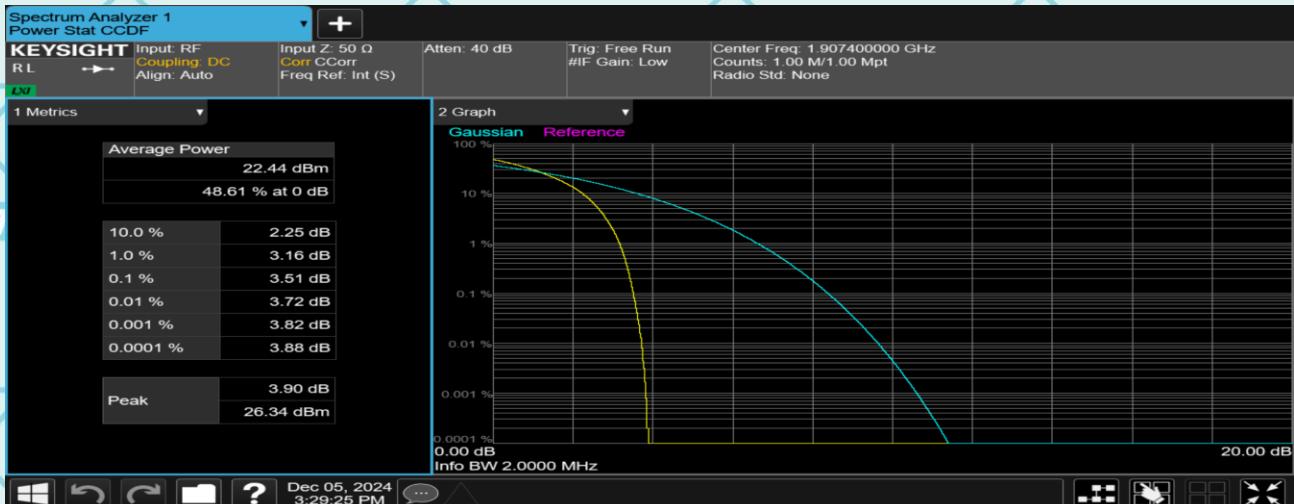
Band2 9262



Band2 9400



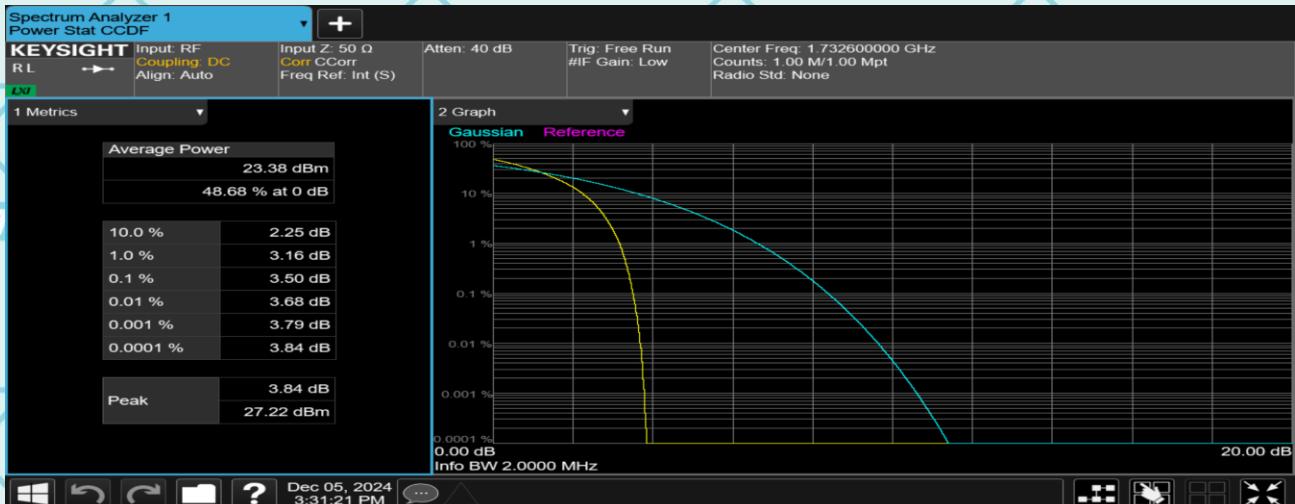
Band2 9538



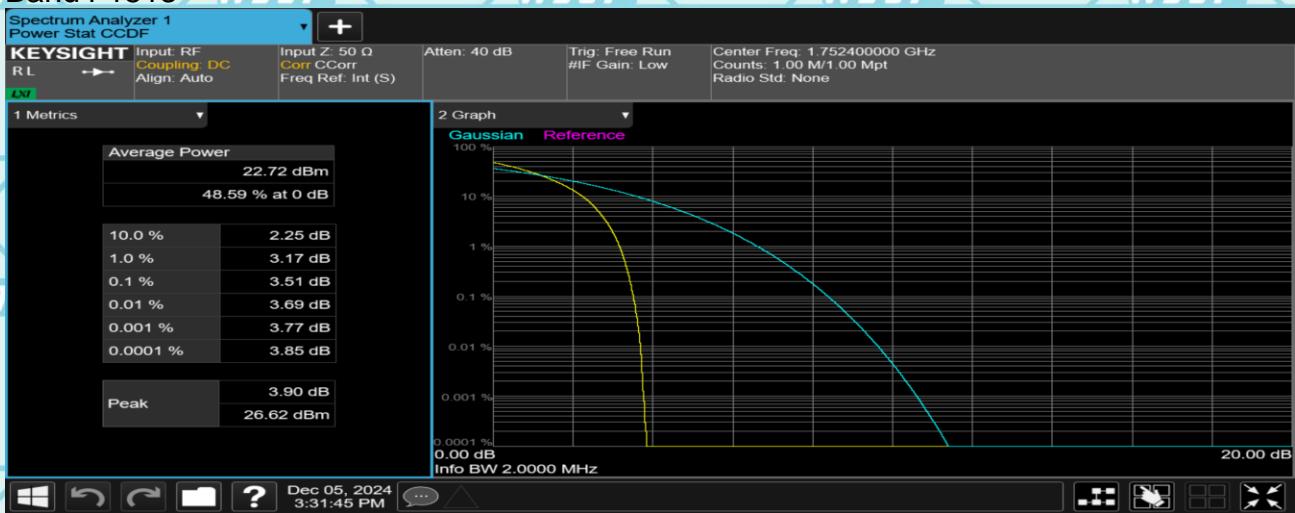
Band4 1312



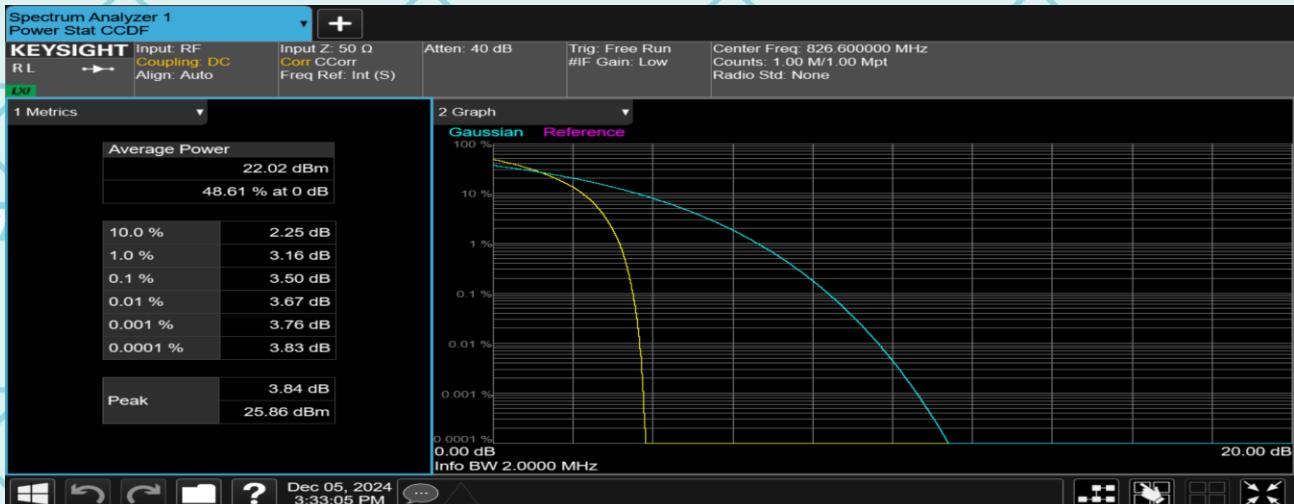
Band4 1413



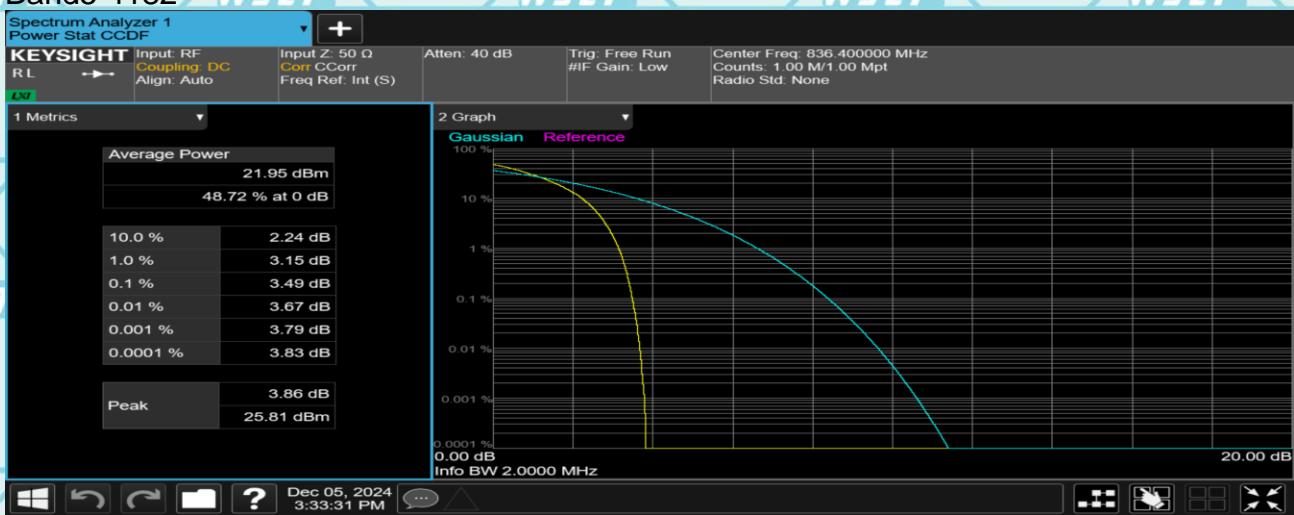
Band4 1513



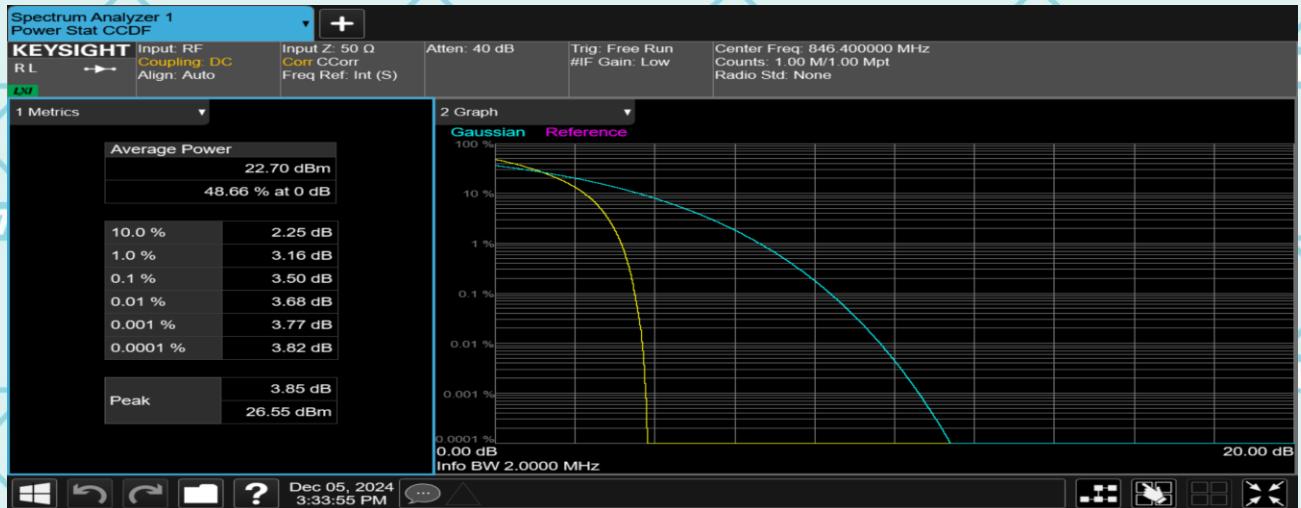
Band5 4132



Band5 4182



Band5 4233



Note: Please refer to Annex (LTE Chapter 2 Peak-to-Average Ratio) for more test data

8. SPURIOUS EMISSION (Conducted and Radiated)

8.1.1 Measurement Result (Pre-measurement)

GSM850:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	0.2	128	824.3	Pass
Middle Range	0.2	190	836.7	Pass
High Range	0.2	251	848.9	Pass

PCS 1900 :

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	0.2	512	1850.3	Pass
Middle Range	0.2	661	1880.1	Pass
High Range	0.2	810	1909.9	Pass

UTRA BANDS

Band 2:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	5	9262	1851.5	Pass
Middle Range	5	9400	1879.1	Pass
High Range	5	9538	1906.6	Pass

Band 4:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	5	1312	1711.5	Pass
Middle Range	5	1413	1731.7	Pass
High Range	5	1513	1751.7	Pass

Band 5:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	5	4132	825.5	Pass
Middle Range	5	4182	835.5	Pass
High Range	5	4233	845.7	Pass

E-UTRA BANDS

Band 2:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
1.4	18607	1850.7	QPSK	6	LOW	Pass
1.4	18607	1850.7	Q16	6	LOW	Pass
1.4	18900	1880	QPSK	6	LOW	Pass
1.4	18900	1880	Q16	6	LOW	Pass
1.4	19193	1909.3	QPSK	6	LOW	Pass
1.4	19193	1909.3	Q16	6	LOW	Pass
3	18615	1851.5	QPSK	15	LOW	Pass
3	18615	1851.5	Q16	15	LOW	Pass
3	18900	1880	QPSK	15	LOW	Pass
3	18900	1880	Q16	15	LOW	Pass
3	19185	1908.5	QPSK	15	LOW	Pass
3	19185	1908.5	Q16	15	LOW	Pass
5	18625	1852.5	QPSK	25	LOW	Pass
5	18625	1852.5	Q16	25	LOW	Pass
5	18900	1880	QPSK	25	LOW	Pass
5	18900	1880	Q16	25	LOW	Pass
5	19175	1907.5	QPSK	25	LOW	Pass
5	19175	1907.5	Q16	25	LOW	Pass
10	18650	1855	QPSK	50	LOW	Pass
10	18650	1855	Q16	50	LOW	Pass
10	18900	1880	QPSK	50	LOW	Pass
10	18900	1880	Q16	50	LOW	Pass
10	19150	1905	QPSK	50	LOW	Pass
10	19150	1905	Q16	50	LOW	Pass
15	18675	1857.5	QPSK	75	LOW	Pass
15	18675	1857.5	Q16	75	LOW	Pass
15	18900	1880	QPSK	75	LOW	Pass
15	18900	1880	Q16	75	LOW	Pass
15	19125	1902.5	QPSK	75	LOW	Pass
15	19125	1902.5	Q16	75	LOW	Pass
20	18700	1860	QPSK	100	LOW	Pass
20	18700	1860	Q16	100	LOW	Pass
20	18900	1880	QPSK	100	LOW	Pass
20	18900	1880	Q16	100	LOW	Pass
20	19100	1900	QPSK	100	LOW	Pass
20	19100	1900	Q16	100	LOW	Pass

Band 4:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
1.4	19957	1710.7	QPSK	6	LOW	Pass
1.4	19957	1710.7	Q16	6	LOW	Pass
1.4	20175	1732.5	QPSK	6	LOW	Pass
1.4	20175	1732.5	Q16	6	LOW	Pass
1.4	20393	1754.3	QPSK	6	LOW	Pass
1.4	20393	1754.3	Q16	6	LOW	Pass
3	19965	1711.5	QPSK	15	LOW	Pass
3	19965	1711.5	Q16	15	LOW	Pass
3	20175	1732.5	QPSK	15	LOW	Pass

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
3	20175	1732.5	Q16	15	LOW	Pass
3	20385	1753.5	QPSK	15	LOW	Pass
3	20385	1753.5	Q16	15	LOW	Pass
5	19975	1712.5	QPSK	25	LOW	Pass
5	19975	1712.5	Q16	25	LOW	Pass
5	20175	1732.5	QPSK	25	LOW	Pass
5	20175	1732.5	Q16	25	LOW	Pass
5	20375	1752.5	QPSK	25	LOW	Pass
5	20375	1752.5	Q16	25	LOW	Pass
10	20000	1715	QPSK	50	LOW	Pass
10	20000	1715	Q16	50	LOW	Pass
10	20175	1732.5	QPSK	50	LOW	Pass
10	20175	1732.5	Q16	50	LOW	Pass
10	20350	1750	QPSK	50	LOW	Pass
10	20350	1750	Q16	50	LOW	Pass
15	20025	1717.5	QPSK	75	LOW	Pass
15	20025	1717.5	Q16	75	LOW	Pass
15	20175	1732.5	QPSK	75	LOW	Pass
15	20175	1732.5	Q16	75	LOW	Pass
15	20325	1747.5	QPSK	75	LOW	Pass
15	20325	1747.5	Q16	75	LOW	Pass
20	20050	1720	QPSK	100	LOW	Pass
20	20050	1720	Q16	100	LOW	Pass
20	20175	1732.5	QPSK	100	LOW	Pass
20	20175	1732.5	Q16	100	LOW	Pass
20	20300	1745	QPSK	100	LOW	Pass
20	20300	1745	Q16	100	LOW	Pass

Band 5:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
1.4	20470	824.7	QPSK	6	LOW	Pass
1.4	20470	824.7	Q16	6	LOW	Pass
1.4	20525	836.5	QPSK	6	LOW	Pass
1.4	20525	836.5	Q16	6	LOW	Pass
1.4	20643	848.3	QPSK	6	LOW	Pass
1.4	20643	848.3	Q16	6	LOW	Pass
3	20415	825.5	QPSK	15	LOW	Pass
3	20415	825.5	Q16	15	LOW	Pass
3	20525	836.5	QPSK	15	LOW	Pass
3	20525	836.5	Q16	15	LOW	Pass
3	20635	847.5	QPSK	15	LOW	Pass
3	20635	847.5	Q16	15	LOW	Pass
5	20425	826.5	QPSK	25	LOW	Pass
5	20425	826.5	Q16	25	LOW	Pass
5	20525	836.5	QPSK	25	LOW	Pass
5	20525	836.5	Q16	25	LOW	Pass
5	20625	846.5	QPSK	25	LOW	Pass
5	20625	846.5	Q16	25	LOW	Pass
10	20450	829	QPSK	50	LOW	Pass
10	20450	829	Q16	50	LOW	Pass
10	20525	836.5	QPSK	50	LOW	Pass



Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
10	20525	836.5	Q16	50	LOW	Pass
10	20600	844	QPSK	50	LOW	Pass
10	20600	844	Q16	50	LOW	Pass

Band 7:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
5	20775	2502.5	QPSK	25	LOW	Pass
5	20775	2502.5	Q16	25	LOW	Pass
5	21100	2535	QPSK	25	LOW	Pass
5	21100	2535	Q16	25	LOW	Pass
5	21425	2567.5	QPSK	25	LOW	Pass
5	21425	2567.5	QPSK	25	LOW	Pass
10	20800	2505	QPSK	50	LOW	Pass
10	20800	2505	Q16	50	LOW	Pass
10	21100	2535	QPSK	50	LOW	Pass
10	21100	2535	Q16	50	LOW	Pass
10	21400	2565	QPSK	50	LOW	Pass
10	21400	2565	Q16	50	LOW	Pass
15	20825	2507.5	QPSK	75	LOW	Pass
15	20825	2507.5	Q16	75	LOW	Pass
15	21100	2535	QPSK	75	LOW	Pass
15	21100	2535	Q16	75	LOW	Pass
15	21375	2562.5	QPSK	75	LOW	Pass
15	21375	2562.5	Q16	75	LOW	Pass
20	20850	2510	QPSK	100	LOW	Pass
20	20850	2510	Q16	100	LOW	Pass
20	21100	2535	QPSK	100	LOW	Pass
20	21100	2535	Q16	100	LOW	Pass
20	21350	2560	QPSK	100	LOW	Pass
20	21350	2560	Q16	100	LOW	Pass

Band 12:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
1.4	23017	699.7	QPSK	6	LOW	Pass
1.4	23017	699.7	Q16	6	LOW	Pass
1.4	23095	707.5	QPSK	6	LOW	Pass
1.4	23095	707.5	Q16	6	LOW	Pass
1.4	23173	715.3	QPSK	6	LOW	Pass
1.4	23173	715.3	Q16	6	LOW	Pass
3	23025	700.5	QPSK	15	LOW	Pass
3	23025	700.5	Q16	15	LOW	Pass
3	23095	707.5	QPSK	15	LOW	Pass
3	23095	707.5	Q16	15	LOW	Pass
3	23165	714.5	QPSK	15	LOW	Pass
3	23165	714.5	Q16	15	LOW	Pass
5	23035	701.5	QPSK	25	LOW	Pass
5	23035	701.5	Q16	25	LOW	Pass
5	23095	707.5	QPSK	25	LOW	Pass
5	23095	707.5	Q16	25	LOW	Pass

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
5	23155	713.5	QPSK	25	LOW	Pass
5	23155	713.5	Q16	25	LOW	Pass
10	23060	704	QPSK	50	LOW	Pass
10	23060	704	Q16	50	LOW	Pass
10	23095	707.5	QPSK	50	LOW	Pass
10	23095	707.5	Q16	50	LOW	Pass
10	23130	711	QPSK	50	LOW	Pass
10	23130	711	Q16	50	LOW	Pass

Band 17:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
5	23755	706.5	QPSK	25	LOW	Pass
5	23755	706.5	Q16	25	LOW	Pass
5	23790	710	QPSK	25	LOW	Pass
5	23790	710	Q16	25	LOW	Pass
5	23825	713.5	QPSK	25	LOW	Pass
5	23825	713.5	Q16	25	LOW	Pass
10	23780	709	QPSK	50	LOW	Pass
10	23780	709	Q16	50	LOW	Pass
10	23790	710	QPSK	50	LOW	Pass
10	23790	710	Q16	50	LOW	Pass
10	23800	711	QPSK	50	LOW	Pass
10	23800	711	Q16	50	LOW	Pass

Band 38:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
5	37775	2572.5	QPSK	25	LOW	Pass
5	37775	2572.5	Q16	25	LOW	Pass
5	38000	2595	QPSK	25	LOW	Pass
5	38000	2595	Q16	25	LOW	Pass
5	38225	2617.5	QPSK	25	LOW	Pass
5	38225	2617.5	Q16	25	LOW	Pass
10	37800	2575	QPSK	50	LOW	Pass
10	37800	2575	Q16	50	LOW	Pass
10	38000	2595	QPSK	50	LOW	Pass
10	38000	2595	Q16	50	LOW	Pass
10	38200	2615	QPSK	50	LOW	Pass
10	38200	2615	Q16	50	LOW	Pass
15	37825	2577.5	QPSK	75	LOW	Pass
15	37825	2577.5	Q16	75	LOW	Pass
15	38000	2595	QPSK	75	LOW	Pass
15	38000	2595	Q16	75	LOW	Pass
15	38175	2612.5	QPSK	75	LOW	Pass
15	38175	2612.5	Q16	75	LOW	Pass
20	37850	2580	QPSK	100	LOW	Pass
20	37850	2580	Q16	100	LOW	Pass
20	38000	2595	QPSK	100	LOW	Pass
20	38000	2595	Q16	100	LOW	Pass
20	38150	2610	QPSK	100	LOW	Pass
20	38150	2610	Q16	100	LOW	Pass



Band 41:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
5	40065	2532.5	QPSK	25	LOW	Pass
5	40065	2532.5	Q16	25	LOW	Pass
5	40140	2525	QPSK	25	LOW	Pass
5	40140	2525	Q16	25	LOW	Pass
5	41215	2652.5	QPSK	25	LOW	Pass
5	41215	2652.5	Q16	25	LOW	Pass
10	40090	2530.	QPSK	50	LOW	Pass
10	40090	2530.	Q16	50	LOW	Pass
10	40140	2525	QPSK	50	LOW	Pass
10	40140	2525	Q16	50	LOW	Pass
10	41190	2650	QPSK	50	LOW	Pass
10	41190	2650	Q16	50	LOW	Pass
15	40115	2527.5	QPSK	75	LOW	Pass
15	40115	2527.5	Q16	75	LOW	Pass
15	40140	2525	QPSK	75	LOW	Pass
15	40140	2525	Q16	75	LOW	Pass
15	41165	2647.5	QPSK	75	LOW	Pass
15	41165	2647.5	Q16	75	LOW	Pass
20	40140	2525	QPSK	100	LOW	Pass
20	40140	2525	Q16	100	LOW	Pass
20	40140	2525	QPSK	100	LOW	Pass
20	40140	2525	Q16	100	LOW	Pass
20	41140	2645	QPSK	100	LOW	Pass
20	41140	2645	Q16	100	LOW	Pass

Band 66:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
1.4	131979	1710.7	QPSK	6	LOW	Pass
1.4	131979	1710.7	Q16	6	LOW	Pass
1.4	132322	1745	QPSK	6	LOW	Pass
1.4	132322	1745	Q16	6	LOW	Pass
1.4	132665	1779.3	QPSK	6	LOW	Pass
1.4	132665	1779.3	Q16	6	LOW	Pass
3	131987	1711.5	QPSK	15	LOW	Pass
3	131987	1711.5	Q16	15	LOW	Pass
3	132322	1745	QPSK	15	LOW	Pass
3	132322	1745	Q16	15	LOW	Pass
3	132657	1778.5	QPSK	15	LOW	Pass
3	132657	1778.5	Q16	15	LOW	Pass
5	131997	1712.5	QPSK	25	LOW	Pass
5	131997	1712.5	Q16	25	LOW	Pass
5	132322	1745	QPSK	25	LOW	Pass
5	132322	1745	Q16	25	LOW	Pass
5	132647	1777.5	QPSK	25	LOW	Pass
5	132647	1777.5	Q16	25	LOW	Pass
10	132022	1715	QPSK	50	LOW	Pass
10	132022	1715	Q16	50	LOW	Pass
10	132322	1745	QPSK	50	LOW	Pass

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
10	132322	1745	Q16	50	LOW	Pass
10	132622	1775	QPSK	50	LOW	Pass
10	132622	1775	Q16	50	LOW	Pass
15	132047	1717.5	QPSK	75	LOW	Pass
15	132047	1717.5	Q16	75	LOW	Pass
15	132322	1745	QPSK	75	LOW	Pass
15	132322	1745	Q16	75	LOW	Pass
15	132597	1772.5	QPSK	75	LOW	Pass
15	132597	1772.5	Q16	75	LOW	Pass
20	132072	1720	QPSK	100	LOW	Pass
20	132072	1720	Q16	100	LOW	Pass
20	132322	1745	QPSK	100	LOW	Pass
20	132322	1745	Q16	100	LOW	Pass
20	132572	1770	QPSK	100	LOW	Pass
20	132572	1770	Q16	100	LOW	Pass

Test Plot(s)

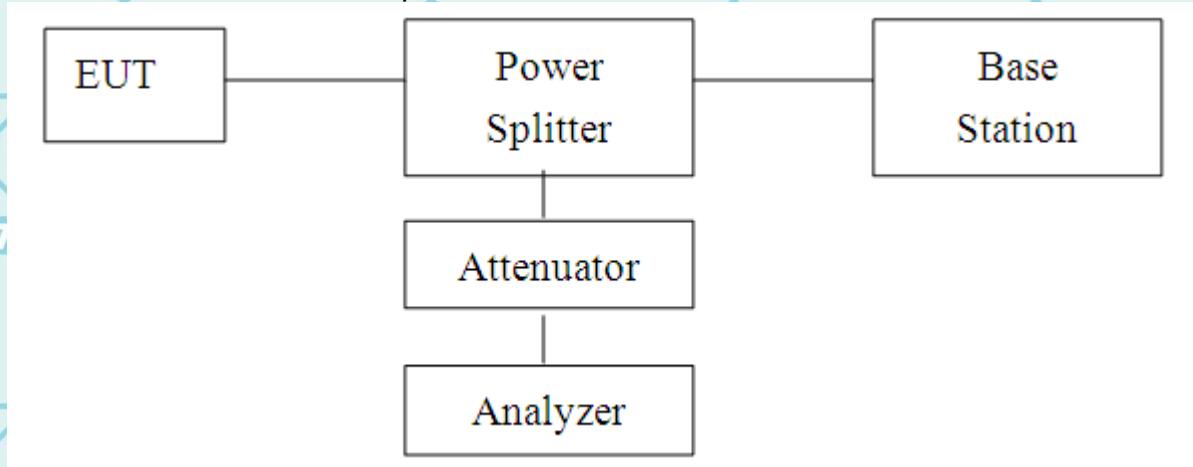
Conducted method**Test limit:**

The spurious (unwanted) emission limits specified in the individual FCC rule parts applicable to licensed digital transmitters (typically referred to under the heading 'emission limits') normally apply to any and all emissions that are present outside of the authorized frequency band/block and apply to emissions in both the out-of-band and spurious domains. In some rule parts, the unwanted emission limits are specified by an emission mask that defines the applicable limit as a function of the frequency range relative to the authorized frequency block.

Typically, unwanted emissions are required by the licensed rule parts to be attenuated below the transmitter power by a factor of at least $X + 10\log(P)$ dB, where P represents the transmitter power expressed in watts and X is a specified scalar value (e.g., 43). This specification can be interpreted in one of two equivalent ways. First, the required attenuation can be construed to be relative to the mean carrier power, with the resultant of the equation $X + 10\log(P)$ being expressed in dBc (dB relative to the maximum carrier power). Alternatively, the specification can be interpreted as an absolute limit when the specified attenuation is actually subtracted from the maximum permissible transmitter power [i.e., $10\log(P) - \{X + 10\log(P)\}$], resulting in an absolute level of $-X$ dBW [or $(-X + 30)$ dBm]. See section 4.

Test procedure:

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz below 1 GHz and 1 MHz above 1 GHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonics.

Conducted Emission Test-Up:

Radiated method

Test limit:

The spurious (unwanted) emission limits specified in the individual FCC rule parts applicable to licensed digital transmitters (typically referred to under the heading 'emission limits') normally apply to any and all emissions that are present outside of the authorized frequency band/block and apply to emissions in both the out-of-band and spurious domains. In some rule parts, the unwanted emission limits are specified by an emission mask that defines the applicable limit as a function of the frequency range relative to the authorized frequency block.

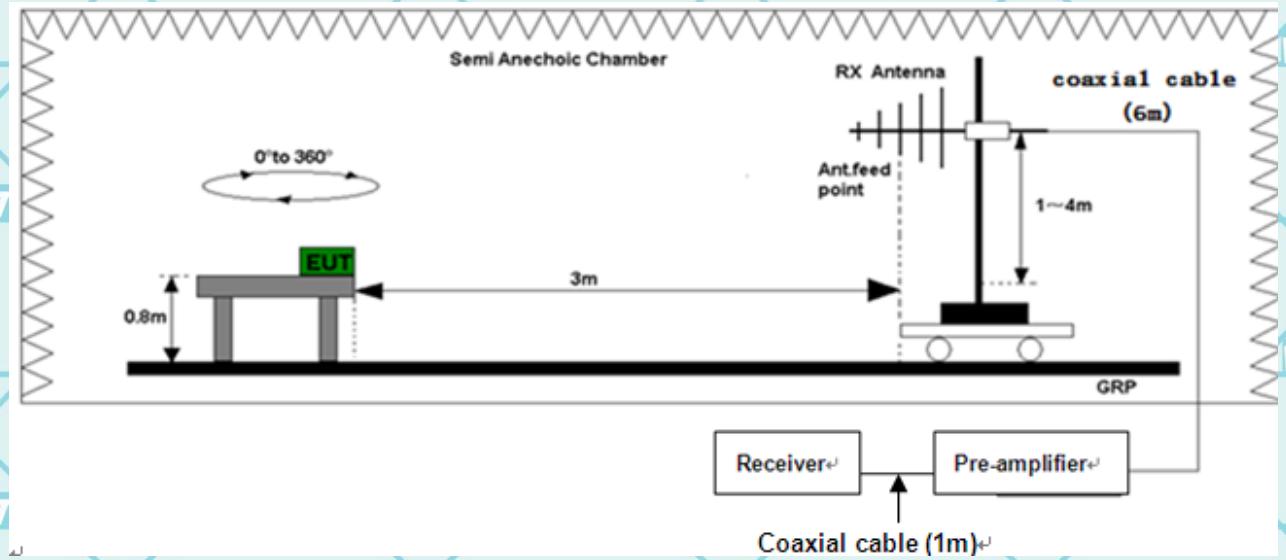
Typically, unwanted emissions are required by the licensed rule parts to be attenuated below the transmitter power by a factor of at least $X + 10\log(P)$ dB, where P represents the transmitter power expressed in watts and X is a specified scalar value (e.g., 43). This specification can be interpreted in one of two equivalent ways. First, the required attenuation can be construed to be relative to the mean carrier power, with the resultant of the equation $X + 10\log(P)$ being expressed in dBc (dB relative to the maximum carrier power). Alternatively, the specification can be interpreted as an absolute limit when the specified attenuation is actually subtracted from the maximum permissible transmitter power [i.e., $10\log(P) - \{X + 10\log(P)\}$], resulting in an absolute level of $-X$ dBW [or $(-X + 30)$ dBm]. See section 4.

Test procedure:

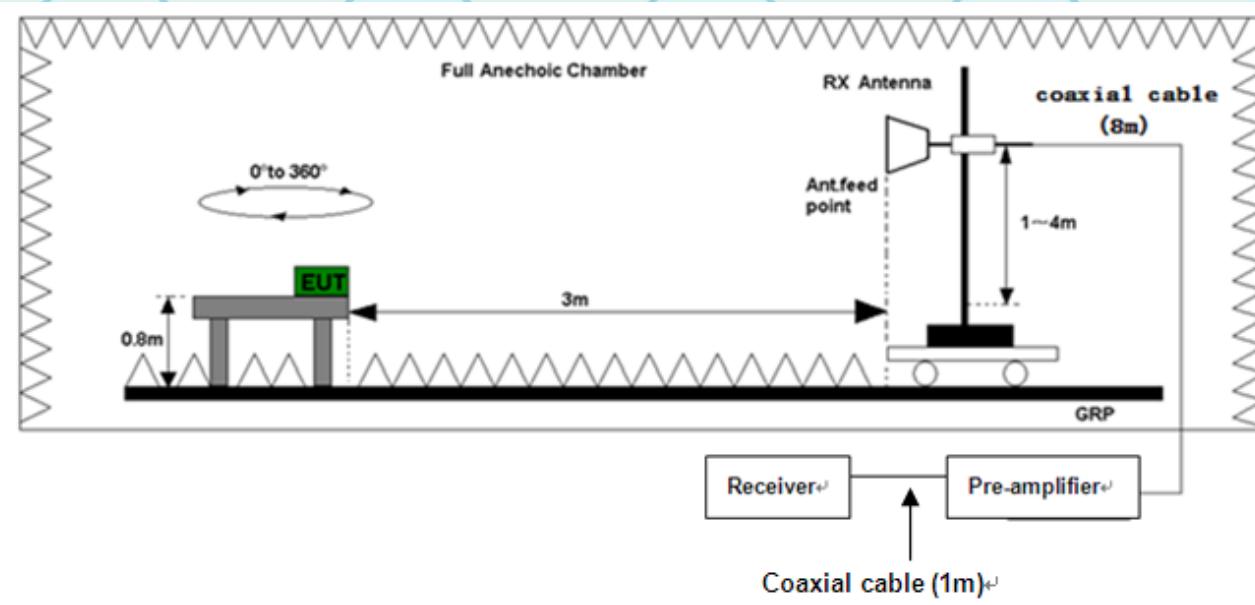
The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site. The resolution bandwidth of the spectrum analyzer was set at 100 kHz below 1 GHz and 1 MHz above 1 GHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonics.

Test setup:

(A) Radiated Emission Test-Up Frequency 30MHz~1GHz



(B) Radiated Emission Test-Up Frequency Above 1GHz



Note:

1. Below 30MHz no Spurious found.
2. UE is positioned at 3 axis at the pre-scan stage, and only the measurement of the worst caseis reported in this part.



List of final test modes:

GSM850:

Channel	UL Channel	Frequency	Judgment
Middle	190	836.6	Pass

PCS1900

Channel	UL Channel	Frequency	Judgment
Middle	661	1880	Pass

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Band 2:

Channel	UL Channel	Frequency	Judgment
Middle	9400	1880	Pass

Band 4::

Channel	UL Channel	Frequency	Judgment
Middle	1413	1732.6	Pass

Band 5:

Channel	UL Channel	Frequency	Judgment
Middle	4182	836.4	Pass

E-UTRA BANDS**This is the worst pattern data****Band 2:**

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	20	18900	1880	QPSK	100	LOW	Pass

Band 4:

Mode	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	20	20300	1745	Q16	100	LOW	Pass

Band 5:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	10	20525	836.5	QPSK	50	LOW	Pass

Band 7:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	20	21350	2560	QPSK	100	LOW	Pass

Band 12:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	10	23095	707.5	QPSK	50	LOW	Pass

Band 17:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	10	23790	710	QPSK	50	LOW	Pass

Band 38:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	20	38000	2595	QPSK	100	LOW	Pass

Band 41:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	20	40640	2595	QPSK	100	LOW	Pass

Band 66:

Channel	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgment
Middle	20	132322	1745	QPSK	100	LOW	Pass

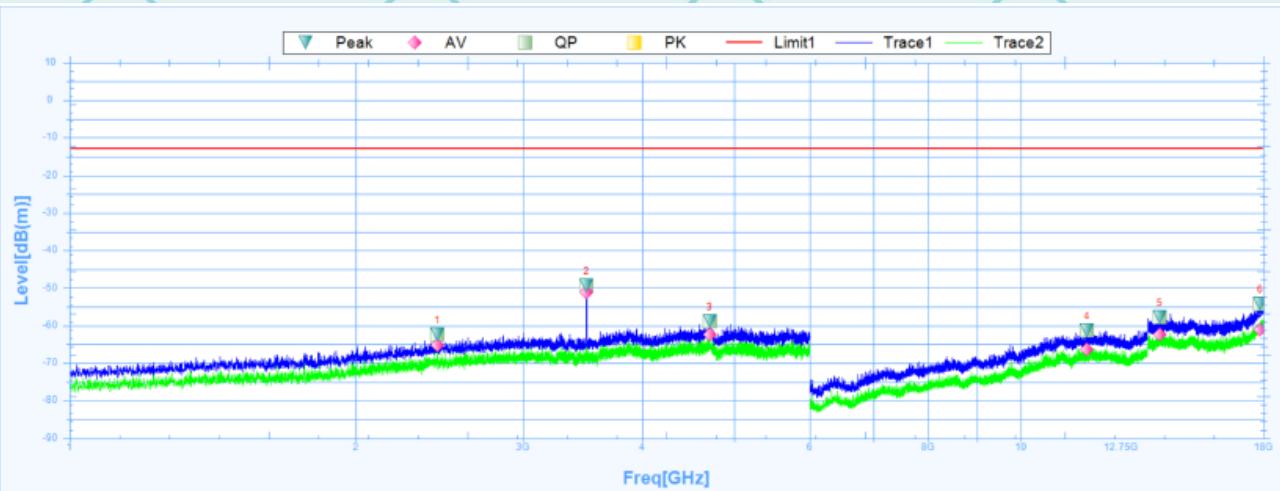
Test record:

Note:

1. The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the A_{RPL} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below:

$$\text{Power} = P_{\text{Mea}} + A_{RPL}$$

2. $A_{RPL} = \text{Cable loss} + \text{Antenna gain}$

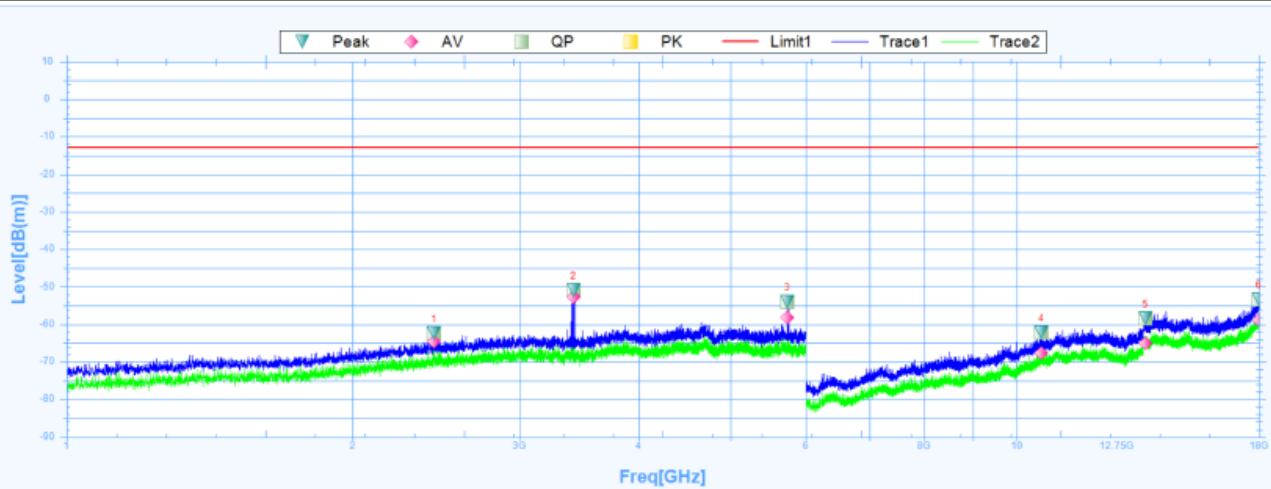
GSM850:
Horizontal:

Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2435.6250	-62.37	27.38	-89.75	-13	-49.37	331.1	Horizontal	PK	Pass
1	2435.6250	-65.32	27.38	-92.7	54	-119.32	331.1	Horizontal	AV	Pass
2	3497.5000	-49.39	28.5	-77.89	-13	-36.39	105.2	Horizontal	PK	Pass
2	3497.5000	-51.14	28.5	-79.64	54	-105.14	105.2	Horizontal	AV	Pass
3	4709.3750	-58.88	31.02	-89.9	-13	-45.88	52.6	Horizontal	PK	Pass
3	4709.3750	-62.46	31.02	-93.48	54	-116.46	52.6	Horizontal	AV	Pass
4	11745.0000	-61.33	16.11	-77.44	-13	-48.33	79.4	Horizontal	PK	Pass
4	11745.0000	-66.43	16.11	-82.54	54	-120.43	79.4	Horizontal	AV	Pass
5	13999.5000	-57.72	19.12	-76.84	-13	-44.72	28	Horizontal	PK	Pass
5	13999.5000	-62.46	19.12	-81.58	54	-116.46	28	Horizontal	AV	Pass
6	17862.0000	-54.2	23.02	-77.22	-13	-41.2	295.8	Horizontal	PK	Pass
6	17862.0000	-61.06	23.02	-84.08	54	-115.06	295.8	Horizontal	AV	Pass



Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2436.2500	-62.4	27.38	-89.78	-13	-49.4	247.4	Vertical	PK	Pass
1	2436.2500	-64.54	27.38	-91.92	54	-118.54	247.4	Vertical	AV	Pass
2	3417.5000	-50.97	28.45	-79.42	-13	-37.97	58.4	Vertical	PK	Pass
2	3417.5000	-52.71	28.45	-81.16	54	-106.71	58.4	Vertical	AV	Pass
3	5738.7500	-53.96	32.38	-86.34	-13	-40.96	290.3	Vertical	PK	Pass
3	5738.7500	-58.17	32.38	-90.55	54	-112.17	290.3	Vertical	AV	Pass
4	10620.0000	-62.11	14.4	-76.51	-13	-49.11	1.2	Vertical	PK	Pass
4	10620.0000	-67.7	14.4	-82.1	54	-121.7	1.2	Vertical	AV	Pass
5	13668.0000	-58.47	18.17	-76.64	-13	-45.47	360	Vertical	PK	Pass
5	13668.0000	-65.07	18.17	-83.24	54	-119.07	360	Vertical	AV	Pass
6	17982.0000	-53.38	23.8	-77.18	-13	-40.38	10.6	Vertical	PK	Pass
6	17982.0000	-58.73	23.8	-82.53	54	-112.73	10.6	Vertical	AV	Pass



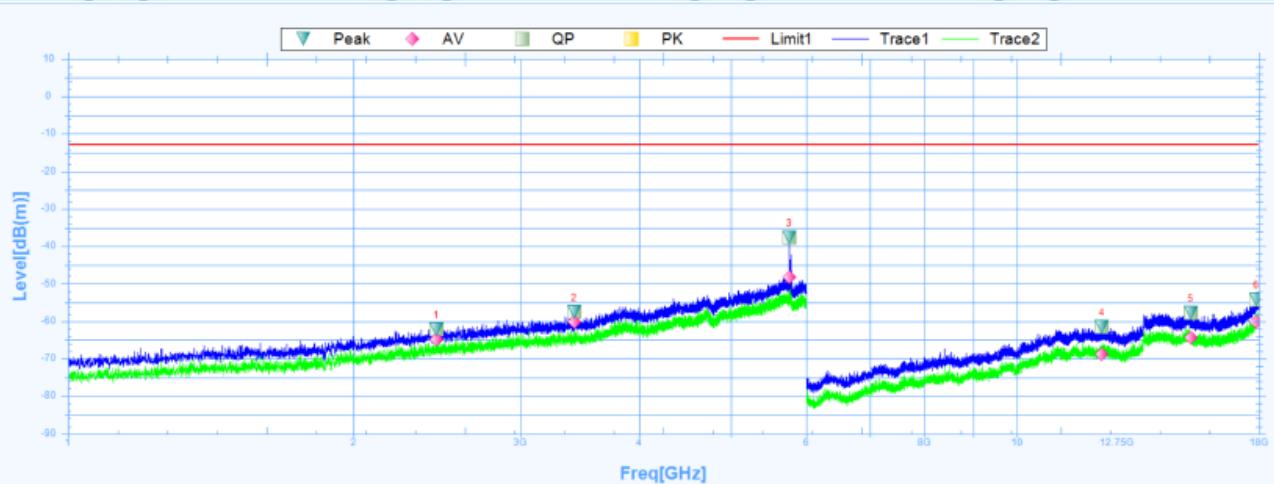
PCS1900:
Horizontal:

Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1923.1250	-62.6	25.55	-88.15	-13	-49.6	359.6	Horizontal	PK	Pass
1	1923.1250	-69.01	25.55	-94.56	54	-123.01	359.6	Horizontal	AV	Pass
2	3416.2500	-54.99	28.45	-83.44	-13	-41.99	224.5	Horizontal	PK	Pass
2	3416.2500	-56.77	28.45	-85.22	54	-110.77	224.5	Horizontal	AV	Pass
3	5751.8750	-40.7	32.4	-73.1	-13	-27.7	186.2	Horizontal	PK	Pass
3	5751.8750	-43.92	32.4	-76.32	54	-97.92	186.2	Horizontal	AV	Pass
4	11518.5000	-62.16	16.18	-78.34	-13	-49.16	101	Horizontal	PK	Pass
4	11518.5000	-68.2	16.18	-84.38	54	-122.2	101	Horizontal	AV	Pass
5	13948.5000	-57.24	18.98	-76.22	-13	-44.24	117.7	Horizontal	PK	Pass
5	13948.5000	-64.24	18.98	-83.22	54	-118.24	117.7	Horizontal	AV	Pass
6	17998.5000	-53.67	23.92	-77.59	-13	-40.67	360.1	Horizontal	PK	Pass
6	17998.5000	-60.1	23.92	-84.02	54	-114.1	360.1	Horizontal	AV	Pass



Vertical:



Suspected Data List

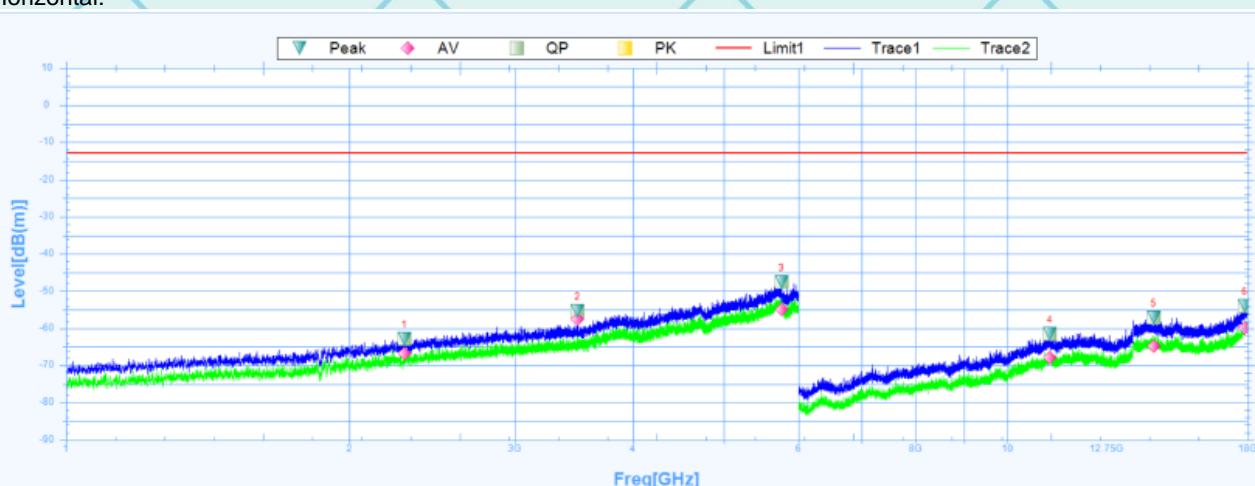
NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2443.1250	-62.1	27.41	-89.51	-13	-49.1	340	Vertical	PK	Pass
1	2443.1250	-64.71	27.41	-92.12	54	-118.71	340	Vertical	AV	Pass
2	3417.5000	-57.48	28.45	-85.93	-13	-44.48	350.6	Vertical	PK	Pass
2	3417.5000	-60.15	28.45	-88.6	54	-114.15	350.6	Vertical	AV	Pass
3	5758.1250	-37.7	32.41	-70.11	-13	-24.7	181.5	Vertical	PK	Pass
3	5758.1250	-48.26	32.41	-80.67	54	-102.26	181.5	Vertical	AV	Pass
4	12298.5000	-61.51	16.48	-77.99	-13	-48.51	360	Vertical	PK	Pass
4	12298.5000	-68.87	16.48	-85.35	54	-122.87	360	Vertical	AV	Pass
5	15252.0000	-57.68	18.75	-76.43	-13	-44.68	360	Vertical	PK	Pass
5	15252.0000	-64.3	18.75	-83.05	54	-118.3	360	Vertical	AV	Pass
6	17880.0000	-54.15	23.14	-77.29	-13	-41.15	252.7	Vertical	PK	Pass
6	17880.0000	-60.14	23.14	-83.28	54	-114.14	252.7	Vertical	AV	Pass



UTRA BANDS

Band 2:

Horizontal:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2288.1250	-62.87	26.88	-89.75	-13	-49.87	198.2	Horizontal	PK	Pass
1	2288.1250	-66.79	26.88	-93.67	54	-120.79	198.2	Horizontal	AV	Pass
2	3496.8750	-55.3	28.5	-83.8	-13	-42.3	299.8	Horizontal	PK	Pass
2	3496.8750	-57.48	28.5	-85.98	54	-111.48	299.8	Horizontal	AV	Pass
3	5755.6250	-47.54	32.41	-79.95	-13	-34.54	290.2	Horizontal	PK	Pass
3	5755.6250	-54.84	32.41	-87.25	54	-108.84	290.2	Horizontal	AV	Pass
4	11097.0000	-61.6	15.87	-77.47	-13	-48.6	285	Horizontal	PK	Pass
4	11097.0000	-67.83	15.87	-83.7	54	-121.83	285	Horizontal	AV	Pass
5	14308.5000	-57.18	18.81	-75.99	-13	-44.18	334.1	Horizontal	PK	Pass
5	14308.5000	-64.85	18.81	-83.66	54	-118.85	334.1	Horizontal	AV	Pass
6	17884.5000	-53.91	23.16	-77.07	-13	-40.91	356.5	Horizontal	PK	Pass
6	17884.5000	-59.96	23.16	-83.12	54	-113.96	356.5	Horizontal	AV	Pass



Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2460.0000	-60.64	27.46	-88.1	-13	-47.64	88.2	Vertical	PK	Pass
1	2460.0000	-65.9	27.46	-93.36	54	-119.9	88.2	Vertical	AV	Pass
2	3945.0000	-55.42	29.57	-84.99	-13	-42.42	-0.1	Vertical	PK	Pass
2	3945.0000	-59.77	29.57	-89.34	54	-113.77	-0.1	Vertical	AV	Pass
3	5956.2500	-48.37	32.73	-81.1	-13	-35.37	41.5	Vertical	PK	Pass
3	5956.2500	-53.93	32.73	-86.66	54	-107.93	41.5	Vertical	AV	Pass
4	11530.5000	-61.53	16.21	-77.74	-13	-48.53	139.2	Vertical	PK	Pass
4	11530.5000	-67.08	16.21	-83.29	54	-121.08	139.2	Vertical	AV	Pass
5	14044.5000	-57.79	19.08	-76.87	-13	-44.79	0.7	Vertical	PK	Pass
5	14044.5000	-65.05	19.08	-84.13	54	-119.05	0.7	Vertical	AV	Pass
6	17995.5000	-53.35	23.9	-77.25	-13	-40.35	18.2	Vertical	PK	Pass
6	17995.5000	-59.34	23.9	-83.24	54	-113.34	18.2	Vertical	AV	Pass



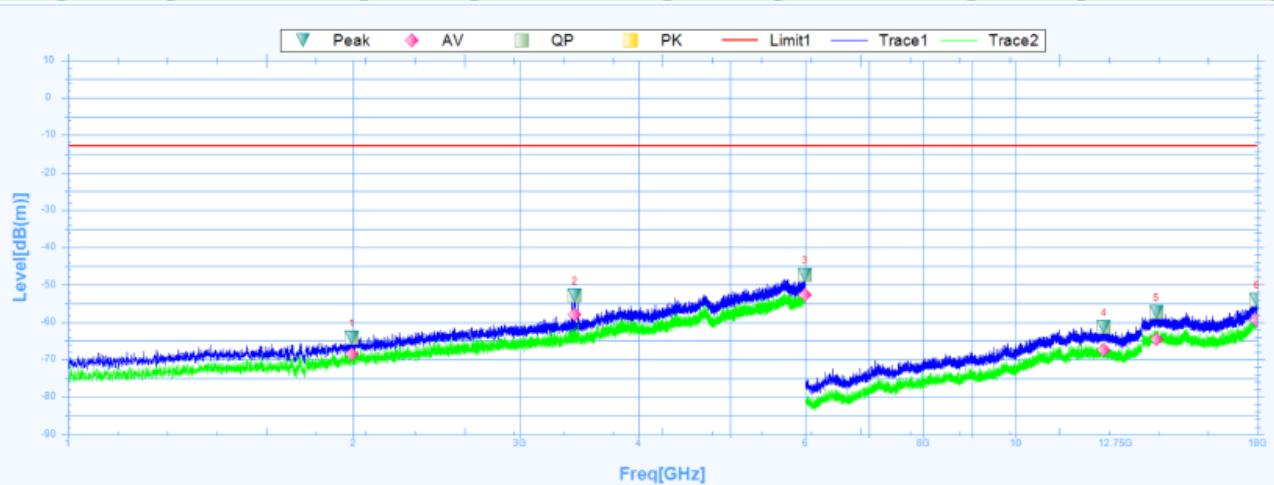
Band 4:
Horizontal:

Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2469.3750	-62.15	27.5	-89.65	-13	-49.15	67.8	Horizontal	PK	Pass
1	2469.3750	-66.6	27.5	-94.1	54	-120.6	67.8	Horizontal	AV	Pass
2	3418.1250	-44.34	28.45	-72.79	-13	-31.34	41.6	Horizontal	PK	Pass
2	3418.1250	-46.24	28.45	-74.69	54	-100.24	41.6	Horizontal	AV	Pass
3	5752.5000	-36.98	32.4	-69.38	-13	-23.98	69	Horizontal	PK	Pass
3	5752.5000	-39.68	32.4	-72.08	54	-93.68	69	Horizontal	AV	Pass
4	11469.0000	-61.29	16.04	-77.33	-13	-48.29	51.8	Horizontal	PK	Pass
4	11469.0000	-66.19	16.04	-82.23	54	-120.19	51.8	Horizontal	AV	Pass
5	14059.5000	-56.85	19.06	-75.91	-13	-43.85	131.9	Horizontal	PK	Pass
5	14059.5000	-62.58	19.06	-81.64	54	-116.58	131.9	Horizontal	AV	Pass
6	17994.0000	-53.04	23.89	-76.93	-13	-40.04	303	Horizontal	PK	Pass
6	17994.0000	-58.73	23.89	-82.62	54	-112.73	303	Horizontal	AV	Pass



Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1993.7500	-64.17	25.87	-90.04	-13	-51.17	359	Vertical	PK	Pass
1	1993.7500	-68.51	25.87	-94.38	54	-122.51	359	Vertical	AV	Pass
2	3428.1250	-52.8	28.46	-81.26	-13	-39.8	353	Vertical	PK	Pass
2	3428.1250	-57.97	28.46	-86.43	54	-111.97	353	Vertical	AV	Pass
3	5996.8750	-47.34	32.79	-80.13	-13	-34.34	280.6	Vertical	PK	Pass
3	5996.8750	-52.65	32.79	-85.44	54	-106.65	280.6	Vertical	AV	Pass
4	12400.5000	-61.32	16.46	-77.78	-13	-48.32	100.8	Vertical	PK	Pass
4	12400.5000	-67.5	16.46	-83.96	54	-121.5	100.8	Vertical	AV	Pass
5	14079.0000	-57.4	19.05	-76.45	-13	-44.4	231	Vertical	PK	Pass
5	14079.0000	-64.6	19.05	-83.65	54	-118.6	231	Vertical	AV	Pass
6	17970.0000	-53.92	23.72	-77.64	-13	-40.92	308.8	Vertical	PK	Pass
6	17970.0000	-59.4	23.72	-83.12	54	-113.4	308.8	Vertical	AV	Pass



WSCT®

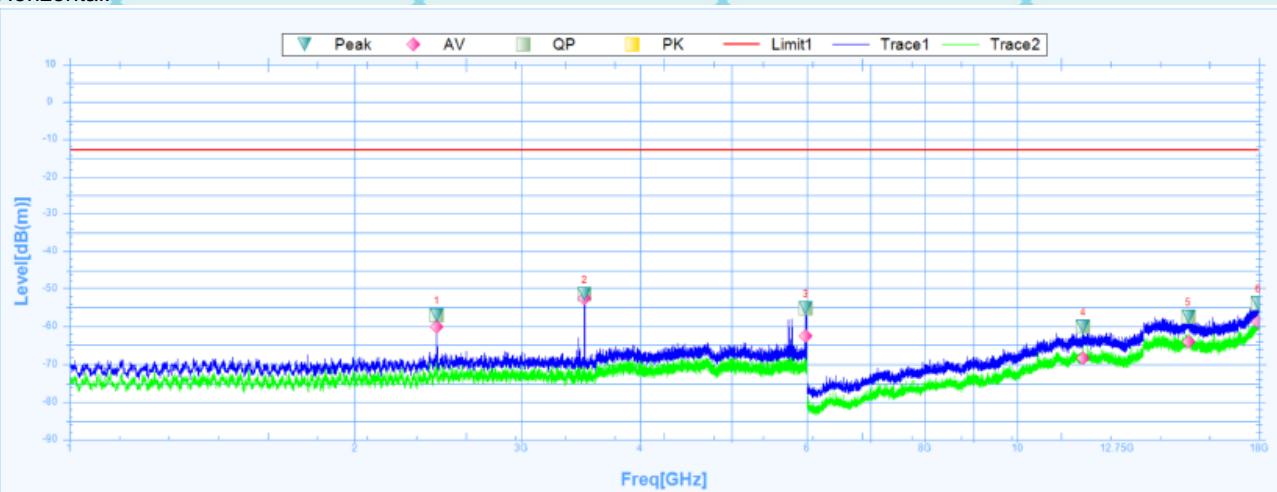
WSCT®

WSCT®

Report No.: WSCT-ANAB-R&E24110063A-RF

Band 5:

Horizontal:

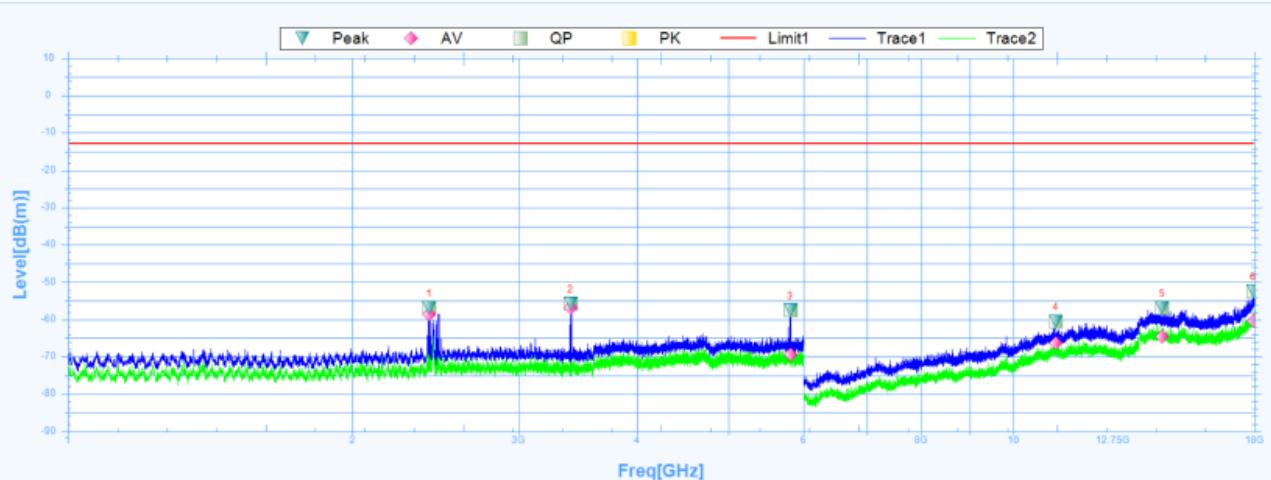


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2440.6250	-57.12	27.4	-84.52	-13	-44.12	0	Horizontal	PK	Pass
1	2440.6250	-60.27	27.4	-87.67	54	-114.27	0	Horizontal	AV	Pass
2	3497.5000	-51.55	28.5	-80.05	-13	-38.55	77.4	Horizontal	PK	Pass
2	3497.5000	-52.64	28.5	-81.14	54	-106.64	77.4	Horizontal	AV	Pass
3	5987.5000	-55.28	32.78	-88.06	-13	-42.28	0	Horizontal	PK	Pass
3	5987.5000	-62.49	32.78	-95.27	54	-116.49	0	Horizontal	AV	Pass
4	11745.0000	-60.15	16.11	-76.26	-13	-47.15	256.3	Horizontal	PK	Pass
4	11745.0000	-68.26	16.11	-84.37	54	-122.26	256.3	Horizontal	AV	Pass
5	15156.0000	-57.53	19.49	-77.02	-13	-44.53	273	Horizontal	PK	Pass
5	15156.0000	-64.24	19.49	-83.73	54	-118.24	273	Horizontal	AV	Pass
6	17968.5000	-54.03	23.71	-77.74	-13	-41.03	22.2	Horizontal	PK	Pass
6	17968.5000	-58.87	23.71	-82.58	54	-112.87	22.2	Horizontal	AV	Pass



Vertical:



Suspected Data List

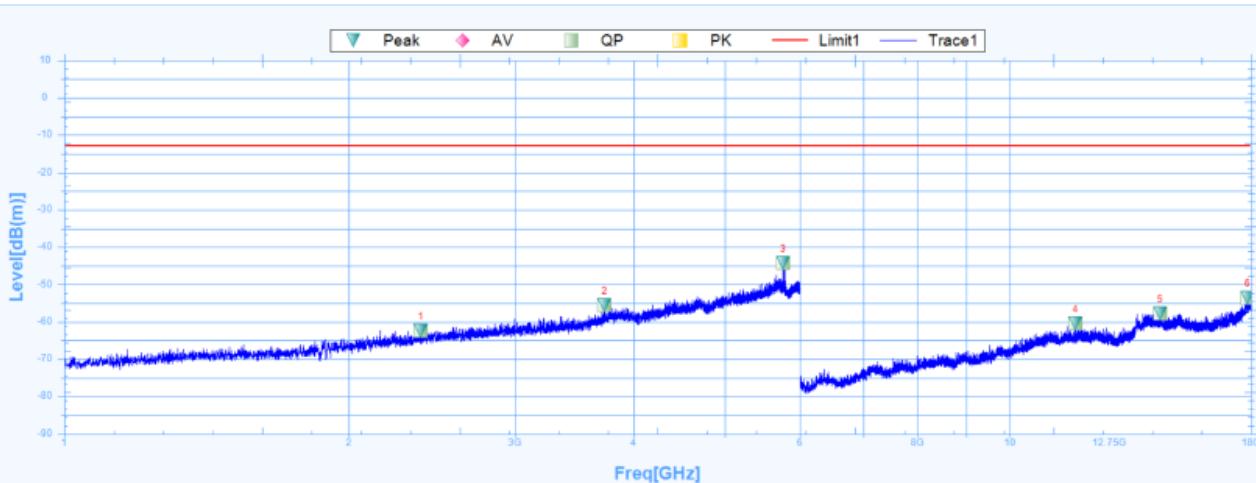
NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2411.2500	-56.86	27.3	-84.16	-13	-43.86	355.1	Vertical	PK	Pass
1	2411.2500	-58.6	27.3	-85.9	54	-112.6	355.1	Vertical	AV	Pass
2	3401.8750	-55.79	28.44	-84.23	-13	-42.79	205.2	Vertical	PK	Pass
2	3401.8750	-56.82	28.44	-85.26	54	-110.82	205.2	Vertical	AV	Pass
3	5810.6250	-57.51	32.5	-90.01	-13	-44.51	265	Vertical	PK	Pass
3	5810.6250	-69.54	32.5	-102.04	54	-123.54	265	Vertical	AV	Pass
4	11095.5000	-60.5	15.88	-76.38	-13	-47.5	3.1	Vertical	PK	Pass
4	11095.5000	-66.39	15.88	-82.27	54	-120.39	3.1	Vertical	AV	Pass
5	14382.0000	-56.95	18.73	-75.68	-13	-43.95	308.9	Vertical	PK	Pass
5	14382.0000	-64.66	18.73	-83.39	54	-118.66	308.9	Vertical	AV	Pass
6	17937.0000	-52.52	23.5	-76.02	-13	-39.52	233.6	Vertical	PK	Pass
6	17937.0000	-60.37	23.5	-83.87	54	-114.37	233.6	Vertical	AV	Pass



E-UTRA BANDS

Band 2:

Horizontal:

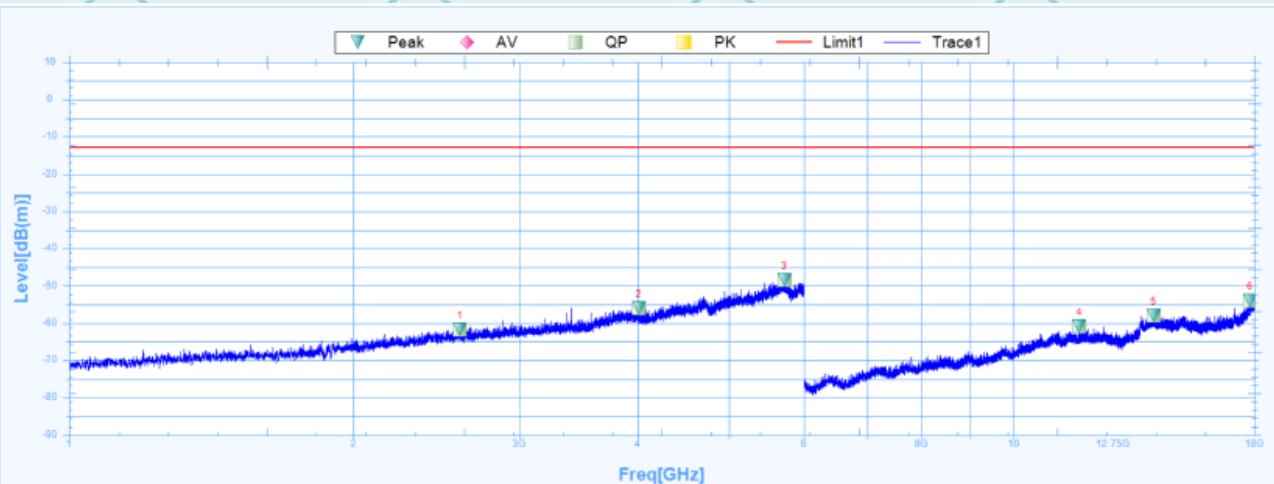


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2383.7500	-62.41	27.2	-89.61	-13	-49.41	185.1	Horizontal	PK	Pass
1	2383.7500		27.2		54		185.1	Horizontal	AV	Pass
2	3729.3750	-55.58	29.05	-84.63	-13	-42.58	13.1	Horizontal	PK	Pass
2	3729.3750		29.05		54		13.1	Horizontal	AV	Pass
3	5763.1250	-44.32	32.42	-76.74	-13	-31.32	-0.1	Horizontal	PK	Pass
3	5763.1250		32.42		54		-0.1	Horizontal	AV	Pass
4	11745.0000	-60.42	16.11	-76.53	-13	-47.42	23.3	Horizontal	PK	Pass
4	11745.0000		16.11		54		23.3	Horizontal	AV	Pass
5	14431.5000	-57.78	18.69	-76.47	-13	-44.78	92.6	Horizontal	PK	Pass
5	14431.5000		18.69		54		92.6	Horizontal	AV	Pass
6	17860.5000	-53.49	23.01	-76.5	-13	-40.49	218.1	Horizontal	PK	Pass
6	17860.5000		23.01		54		218.1	Horizontal	AV	Pass



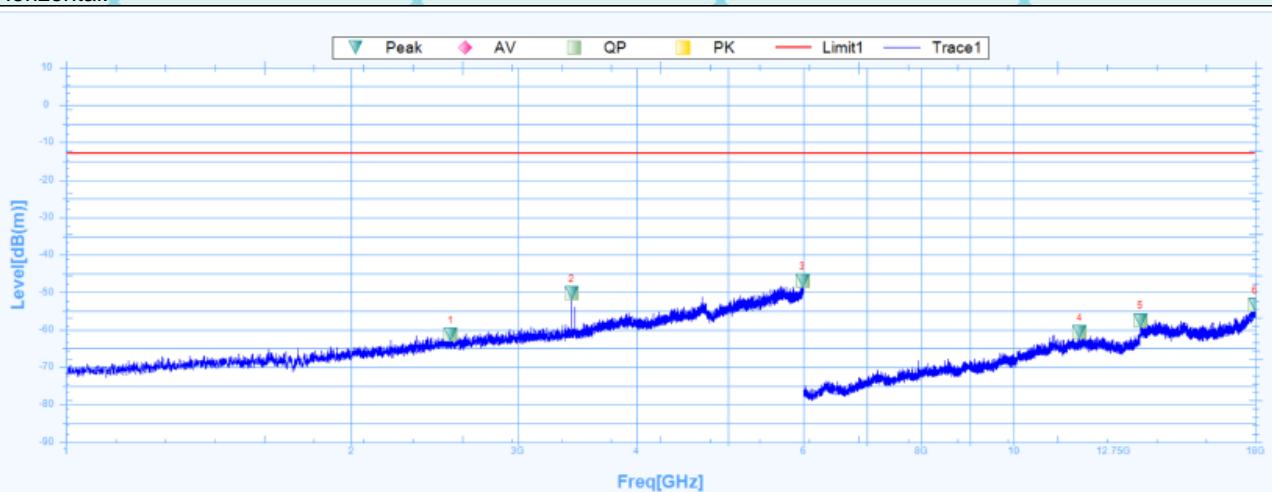
Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2592.5000	-61.69	27.71	-89.4	-13	-48.69	308.1	Vertical	PK	Pass
1	2592.5000		27.71		54		308.1	Vertical	AV	Pass
2	4012.5000	-55.9	29.72	-85.62	-13	-42.9	23.6	Vertical	PK	Pass
2	4012.5000		29.72		54		23.6	Vertical	AV	Pass
3	5721.8750	-48.45	32.35	-80.8	-13	-35.45	358.3	Vertical	PK	Pass
3	5721.8750		32.35		54		358.3	Vertical	AV	Pass
4	11745.0000	-60.93	16.11	-77.04	-13	-47.93	360.1	Vertical	PK	Pass
4	11745.0000		16.11		54		360.1	Vertical	AV	Pass
5	14074.5000	-58.06	19.05	-77.11	-13	-45.06	75.8	Vertical	PK	Pass
5	14074.5000		19.05		54		75.8	Vertical	AV	Pass
6	17811.0000	-53.89	22.69	-76.58	-13	-40.89	360.1	Vertical	PK	Pass
6	17811.0000		22.69		54		360.1	Vertical	AV	Pass



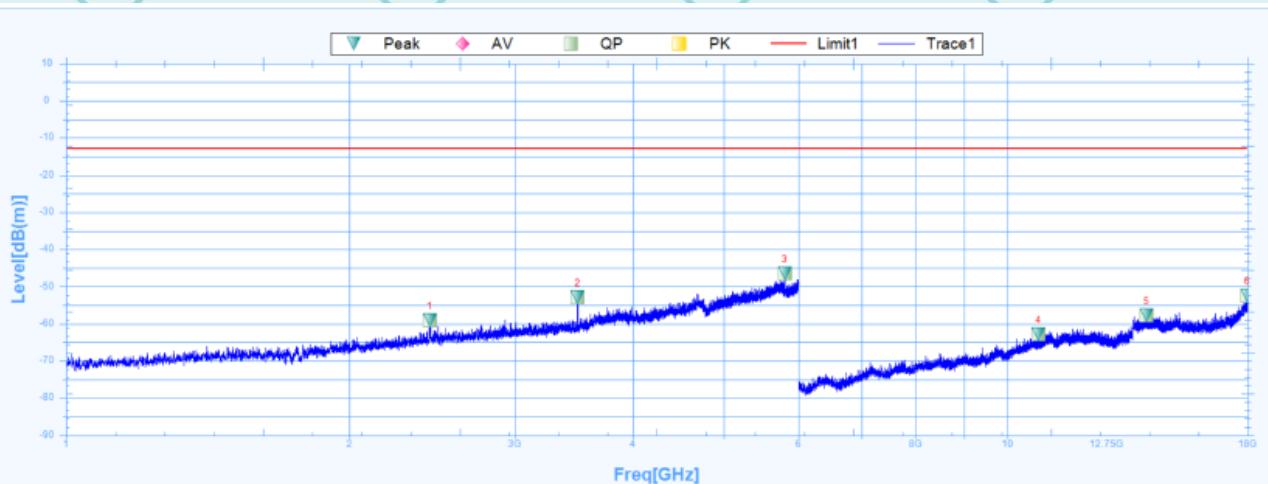


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2547.5000	-61.29	27.66	-88.95	-13	-48.29	0	Horizontal	PK	Pass
1	2547.5000		27.66		54		0	Horizontal	AV	Pass
2	3418.7500	-50.14	28.45	-78.59	-13	-37.14	41.6	Horizontal	PK	Pass
2	3418.7500		28.45		54		41.6	Horizontal	AV	Pass
3	5988.7500	-46.97	32.78	-79.75	-13	-33.97	126.4	Horizontal	PK	Pass
3	5988.7500		32.78		54		126.4	Horizontal	AV	Pass
4	11745.0000	-60.66	16.11	-76.77	-13	-47.66	96.1	Horizontal	PK	Pass
4	11745.0000		16.11		54		96.1	Horizontal	AV	Pass
5	13603.5000	-57.41	17.98	-75.39	-13	-44.41	203.7	Horizontal	PK	Pass
5	13603.5000		17.98		54		203.7	Horizontal	AV	Pass
6	17973.0000	-53.41	23.74	-77.15	-13	-40.41	182.2	Horizontal	PK	Pass
6	17973.0000		23.74		54		182.2	Horizontal	AV	Pass



Vertical:



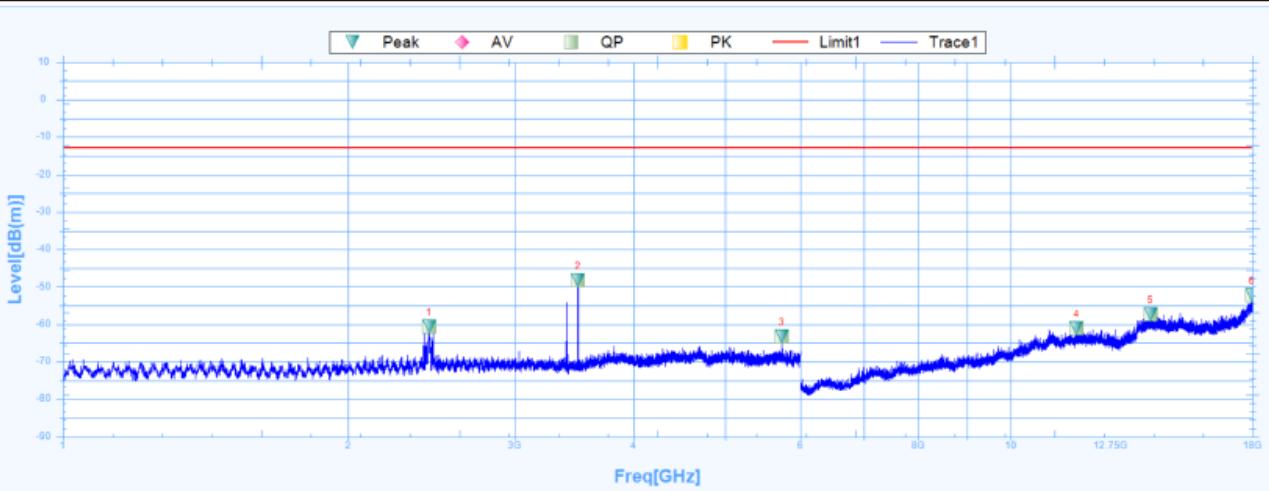
Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2433.7500	-59.01	27.37	-86.38	-13	-46.01	297.4	Vertical	PK	Pass
1	2433.7500		27.37		54		297.4	Vertical	AV	Pass
2	3497.5000	-52.81	28.5	-81.31	-13	-39.81	359	Vertical	PK	Pass
2	3497.5000		28.5		54		359	Vertical	AV	Pass
3	5801.8750	-46.39	32.48	-78.87	-13	-33.39	280.6	Vertical	PK	Pass
3	5801.8750		32.48		54		280.6	Vertical	AV	Pass
4	10791.0000	-62.77	14.76	-77.53	-13	-49.77	37.5	Vertical	PK	Pass
4	10791.0000		14.76		54		37.5	Vertical	AV	Pass
5	14061.0000	-57.81	19.06	-76.87	-13	-44.81	360	Vertical	PK	Pass
5	14061.0000		19.06		54		360	Vertical	AV	Pass
6	17985.0000	-52.45	23.82	-76.27	-13	-39.45	13	Vertical	PK	Pass
6	17985.0000		23.82		54		13	Vertical	AV	Pass



Band 5:

Horizontal:

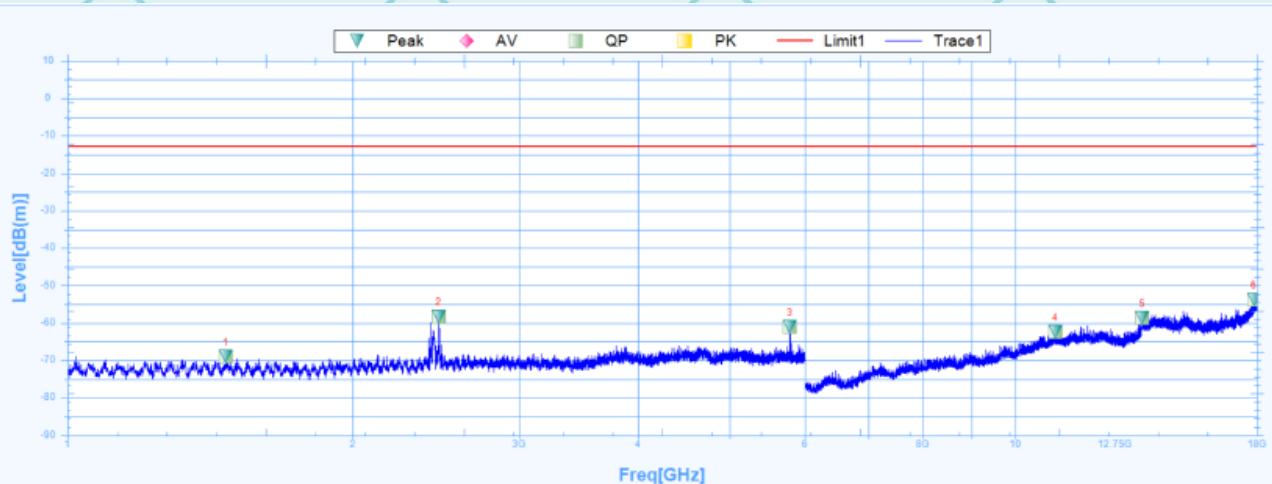


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2433.1250	-60.54	27.37	-87.91	-13	-47.54	47.4	Horizontal	PK	Pass
1	2433.1250		27.37		54		47.4	Horizontal	AV	Pass
2	3497.5000	-48.16	28.5	-76.66	-13	-35.16	179	Horizontal	PK	Pass
2	3497.5000		28.5		54		179	Horizontal	AV	Pass
3	5736.8750	-63.27	32.38	-95.65	-13	-50.27	-0.1	Horizontal	PK	Pass
3	5736.8750		32.38		54		-0.1	Horizontal	AV	Pass
4	11745.0000	-60.96	16.11	-77.07	-13	-47.96	9.3	Horizontal	PK	Pass
4	11745.0000		16.11		54		9.3	Horizontal	AV	Pass
5	14049.0000	-57.25	19.08	-76.33	-13	-44.25	276.6	Horizontal	PK	Pass
5	14049.0000		19.08		54		276.6	Horizontal	AV	Pass
6	17974.5000	-52.27	23.75	-76.02	-13	-39.27	291	Horizontal	PK	Pass
6	17974.5000		23.75		54		291	Horizontal	AV	Pass



Vertical:



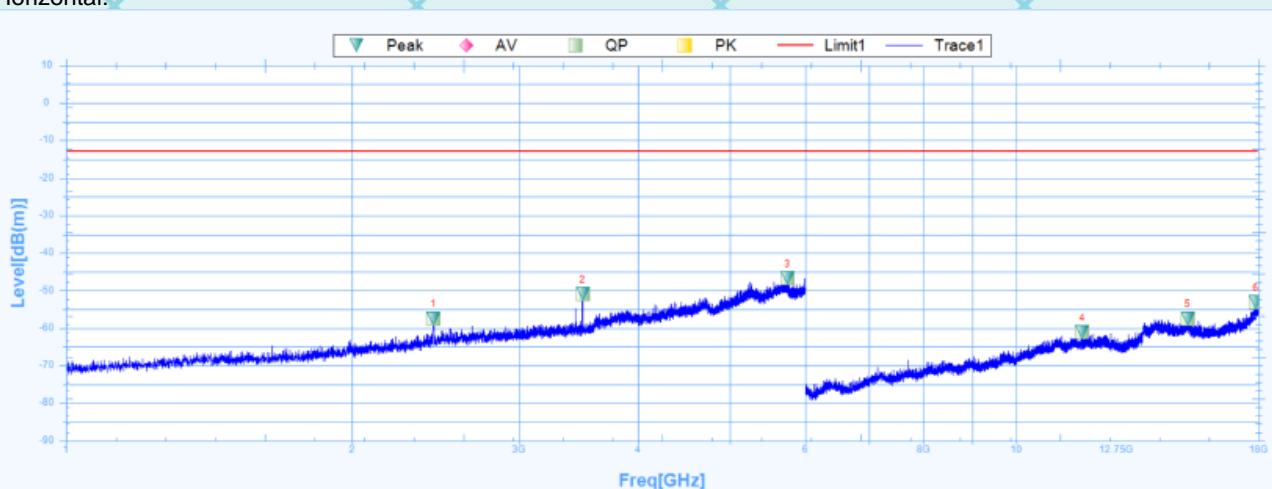
Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1469.3750	-68.99	25.03	-94.02	-13	-55.99	298.6	Vertical	PK	Pass
1	1469.3750		25.03		54		298.6	Vertical	AV	Pass
2	2464.3750	-58.3	27.48	-85.78	-13	-45.3	0	Vertical	PK	Pass
2	2464.3750		27.48		54		0	Vertical	AV	Pass
3	5786.8750	-61.07	32.46	-93.53	-13	-48.07	336.7	Vertical	PK	Pass
3	5786.8750		32.46		54		336.7	Vertical	AV	Pass
4	11023.5000	-62.32	15.69	-78.01	-13	-49.32	164.2	Vertical	PK	Pass
4	11023.5000		15.69		54		164.2	Vertical	AV	Pass
5	13621.5000	-58.54	18.04	-76.58	-13	-45.54	0.7	Vertical	PK	Pass
5	13621.5000		18.04		54		0.7	Vertical	AV	Pass
6	17865.0000	-53.79	23.04	-76.83	-13	-40.79	111.7	Vertical	PK	Pass
6	17865.0000		23.04		54		111.7	Vertical	AV	Pass



Band 7:

Horizontal:

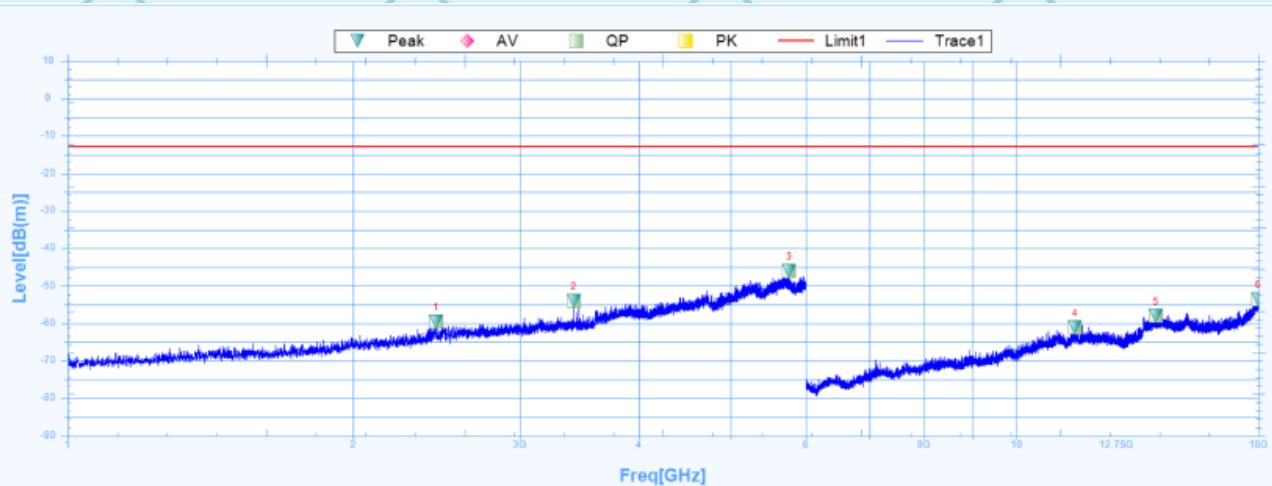


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2435.6250	-57.41	27.38	-84.79	-13	-44.41	97.8	Horizontal	PK	Pass
1	2435.6250		27.38		54		97.8	Horizontal	AV	Pass
2	3498.1250	-50.82	28.5	-79.32	-13	-37.82	359.5	Horizontal	PK	Pass
2	3498.1250		28.5		54		359.5	Horizontal	AV	Pass
3	5749.3750	-46.8	32.4	-79.2	-13	-33.8	344.9	Horizontal	PK	Pass
3	5749.3750		32.4		54		344.9	Horizontal	AV	Pass
4	11745.0000	-61.15	16.11	-77.26	-13	-48.15	0.5	Horizontal	PK	Pass
4	11745.0000		16.11		54		0.5	Horizontal	AV	Pass
5	15159.0000	-57.42	19.46	-76.88	-13	-44.42	204.9	Horizontal	PK	Pass
5	15159.0000		19.46		54		204.9	Horizontal	AV	Pass
6	17889.0000	-53.05	23.19	-76.24	-13	-40.05	279	Horizontal	PK	Pass
6	17889.0000		23.19		54		279	Horizontal	AV	Pass



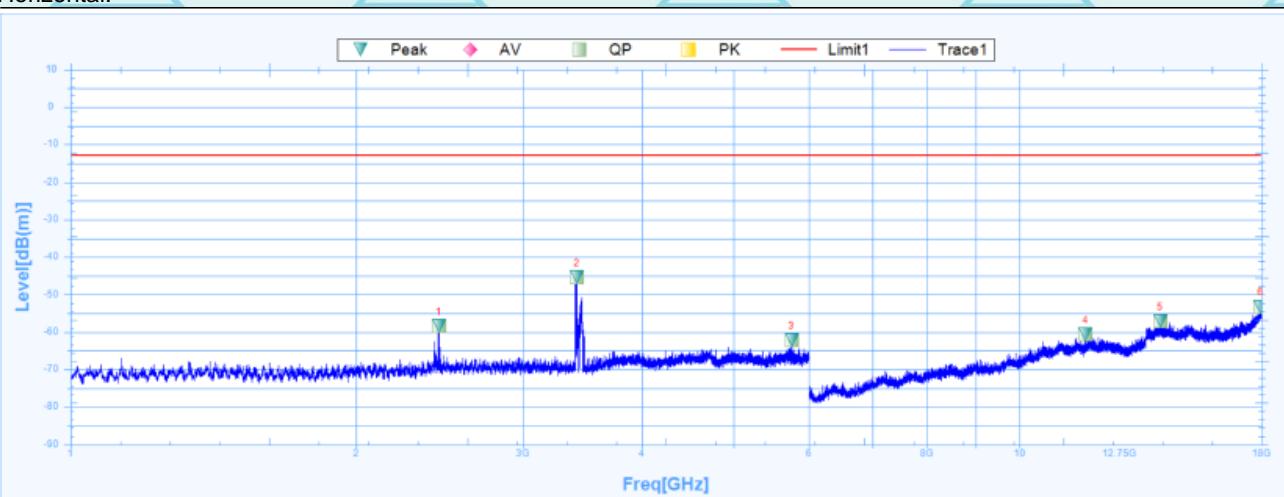
Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2443.7500	-59.59	27.41	-87	-13	-46.59	130	Vertical	PK	Pass
1	2443.7500		27.41		54		130	Vertical	AV	Pass
2	3417.5000	-53.97	28.45	-82.42	-13	-40.97	359	Vertical	PK	Pass
2	3417.5000		28.45		54		359	Vertical	AV	Pass
3	5763.7500	-45.95	32.42	-78.37	-13	-32.95	359.4	Vertical	PK	Pass
3	5763.7500		32.42		54		359.4	Vertical	AV	Pass
4	11535.0000	-61.14	16.22	-77.36	-13	-48.14	281.3	Vertical	PK	Pass
4	11535.0000		16.22		54		281.3	Vertical	AV	Pass
5	14032.5000	-57.99	19.09	-77.08	-13	-44.99	118.7	Vertical	PK	Pass
5	14032.5000		19.09		54		118.7	Vertical	AV	Pass
6	17985.0000	-53.54	23.82	-77.36	-13	-40.54	355.8	Vertical	PK	Pass
6	17985.0000		23.82		54		355.8	Vertical	AV	Pass



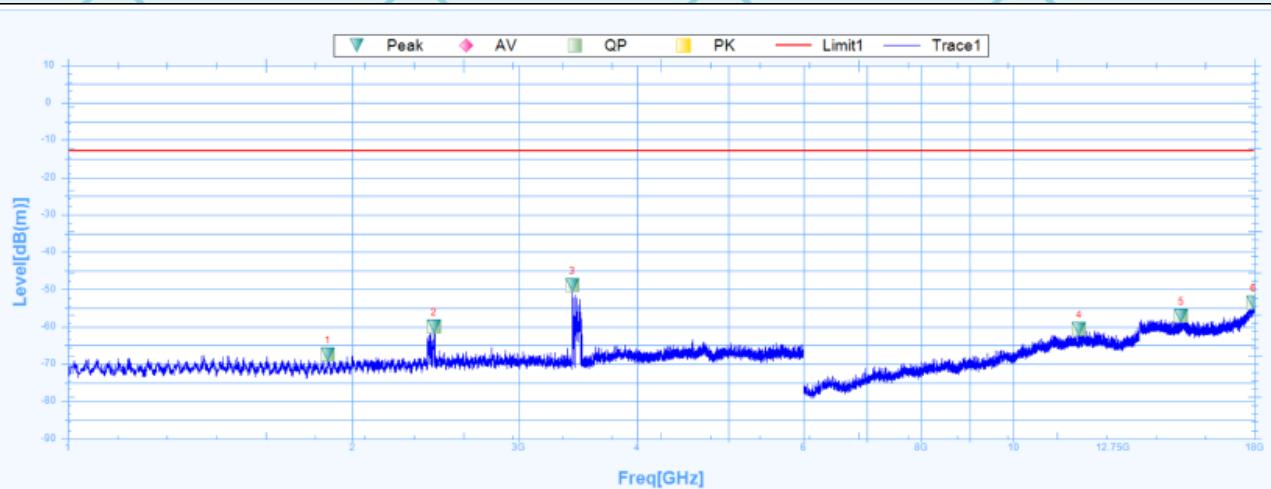
Band 12:
Horizontal:

Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2443.1250	-58.47	27.41	-85.88	-13	-45.47	2.4	Horizontal	PK	Pass
1	2443.1250		27.41		54		2.4	Horizontal	AV	Pass
2	3418.1250	-45.29	28.45	-73.74	-13	-32.29	-0.1	Horizontal	PK	Pass
2	3418.1250		28.45		54		-0.1	Horizontal	AV	Pass
3	5752.5000	-62.21	32.4	-94.61	-13	-49.21	226.8	Horizontal	PK	Pass
3	5752.5000		32.4		54		226.8	Horizontal	AV	Pass
4	11745.0000	-60.69	16.11	-76.8	-13	-47.69	41	Horizontal	PK	Pass
4	11745.0000		16.11		54		41	Horizontal	AV	Pass
5	14073.0000	-56.99	19.06	-76.05	-13	-43.99	7.5	Horizontal	PK	Pass
5	14073.0000		19.06		54		7.5	Horizontal	AV	Pass
6	17955.0000	-53.21	23.61	-76.82	-13	-40.21	81.7	Horizontal	PK	Pass
6	17955.0000		23.61		54		81.7	Horizontal	AV	Pass



Vertical:



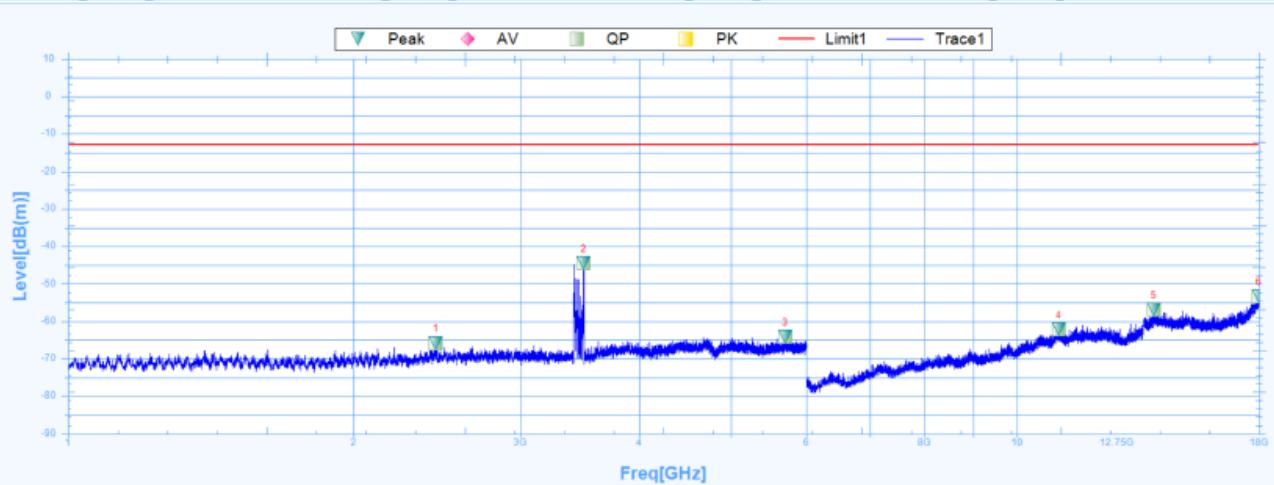
Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1883.7500	-67.41	25.38	-92.79	-13	-54.41	287.8	Vertical	PK	Pass
1	1883.7500		25.38		54		287.8	Vertical	AV	Pass
2	2440.0000	-60.01	27.4	-87.41	-13	-47.01	3.6	Vertical	PK	Pass
2	2440.0000		27.4		54		3.6	Vertical	AV	Pass
3	3418.7500	-48.9	28.45	-77.35	-13	-35.9	164.7	Vertical	PK	Pass
3	3418.7500		28.45		54		164.7	Vertical	AV	Pass
4	11745.0000	-60.65	16.11	-76.76	-13	-47.65	279	Vertical	PK	Pass
4	11745.0000		16.11		54		279	Vertical	AV	Pass
5	15063.0000	-57.02	19.35	-76.37	-13	-44.02	360	Vertical	PK	Pass
5	15063.0000		19.35		54		360	Vertical	AV	Pass
6	17947.5000	-53.58	23.56	-77.14	-13	-40.58	5.8	Vertical	PK	Pass
6	17947.5000		23.56		54		5.8	Vertical	AV	Pass



Band 17:

Horizontal:

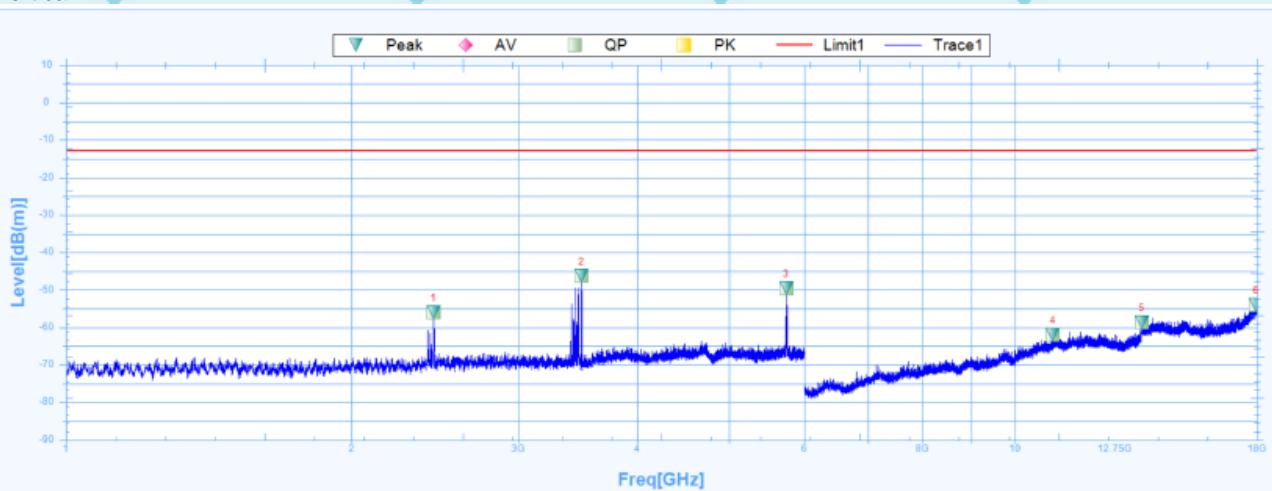


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2441.2500	-65.81	27.4	-93.21	-13	-52.81	352.4	Horizontal	PK	Pass
1	2441.2500		27.4		54		352.4	Horizontal	AV	Pass
2	3497.5000	-44.42	28.5	-72.92	-13	-31.42	3	Horizontal	PK	Pass
2	3497.5000		28.5		54		3	Horizontal	AV	Pass
3	5701.8750	-64.17	32.32	-96.49	-13	-51.17	0	Horizontal	PK	Pass
3	5701.8750		32.32		54		0	Horizontal	AV	Pass
4	11074.5000	-62.12	15.85	-77.97	-13	-49.12	204.8	Horizontal	PK	Pass
4	11074.5000		15.85		54		204.8	Horizontal	AV	Pass
5	13944.0000	-56.76	18.95	-75.71	-13	-43.76	343.4	Horizontal	PK	Pass
5	13944.0000		18.95		54		343.4	Horizontal	AV	Pass
6	17986.5000	-53.39	23.83	-77.22	-13	-40.39	0.5	Horizontal	PK	Pass
6	17986.5000		23.83		54		0.5	Horizontal	AV	Pass



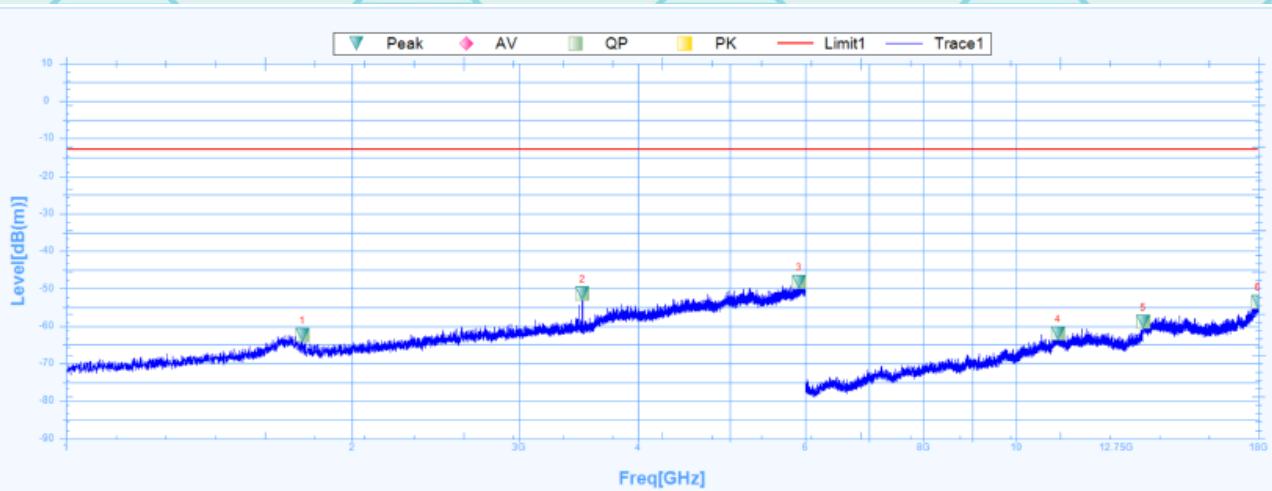
Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2438.7500	-56.03	27.39	-83.42	-13	-43.03	119.2	Vertical	PK	Pass
1	2438.7500		27.39		54		119.2	Vertical	AV	Pass
2	3496.2500	-46.19	28.5	-74.69	-13	-33.19	138.3	Vertical	PK	Pass
2	3496.2500		28.5		54		138.3	Vertical	AV	Pass
3	5741.8750	-49.66	32.39	-82.05	-13	-36.66	109.7	Vertical	PK	Pass
3	5741.8750		32.39		54		109.7	Vertical	AV	Pass
4	10969.5000	-61.98	15.45	-77.43	-13	-48.98	75.8	Vertical	PK	Pass
4	10969.5000		15.45		54		75.8	Vertical	AV	Pass
5	13611.0000	-58.56	18	-76.56	-13	-45.56	330.5	Vertical	PK	Pass
5	13611.0000		18		54		330.5	Vertical	AV	Pass
6	17952.0000	-53.95	23.59	-77.54	-13	-40.95	246.8	Vertical	PK	Pass
6	17952.0000		23.59		54		246.8	Vertical	AV	Pass



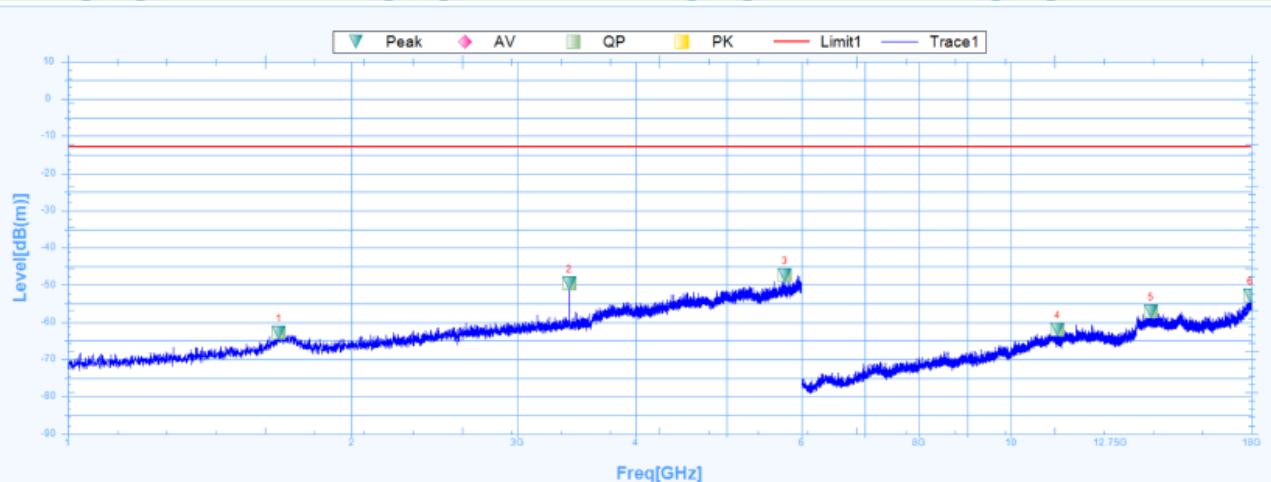
Band 38:
Horizontal:

Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1773.7500	-62.46	24.99	-87.45	-13	-49.46	0.1	Horizontal	PK	Pass
1	1773.7500		24.99		54		0.1	Horizontal	AV	Pass
2	3497.5000	-51.29	28.5	-79.79	-13	-38.29	103.8	Horizontal	PK	Pass
2	3497.5000		28.5		54		103.8	Horizontal	AV	Pass
3	5909.3750	-48.33	32.66	-80.99	-13	-35.33	174.4	Horizontal	PK	Pass
3	5909.3750		32.66		54		174.4	Horizontal	AV	Pass
4	11067.0000	-61.89	15.83	-77.72	-13	-48.89	96.2	Horizontal	PK	Pass
4	11067.0000		15.83		54		96.2	Horizontal	AV	Pass
5	13608.0000	-58.81	17.99	-76.8	-13	-45.81	84.2	Horizontal	PK	Pass
5	13608.0000		17.99		54		84.2	Horizontal	AV	Pass
6	17974.5000	-53.54	23.75	-77.29	-13	-40.54	274.2	Horizontal	PK	Pass
6	17974.5000		23.75		54		274.2	Horizontal	AV	Pass



Vertical:



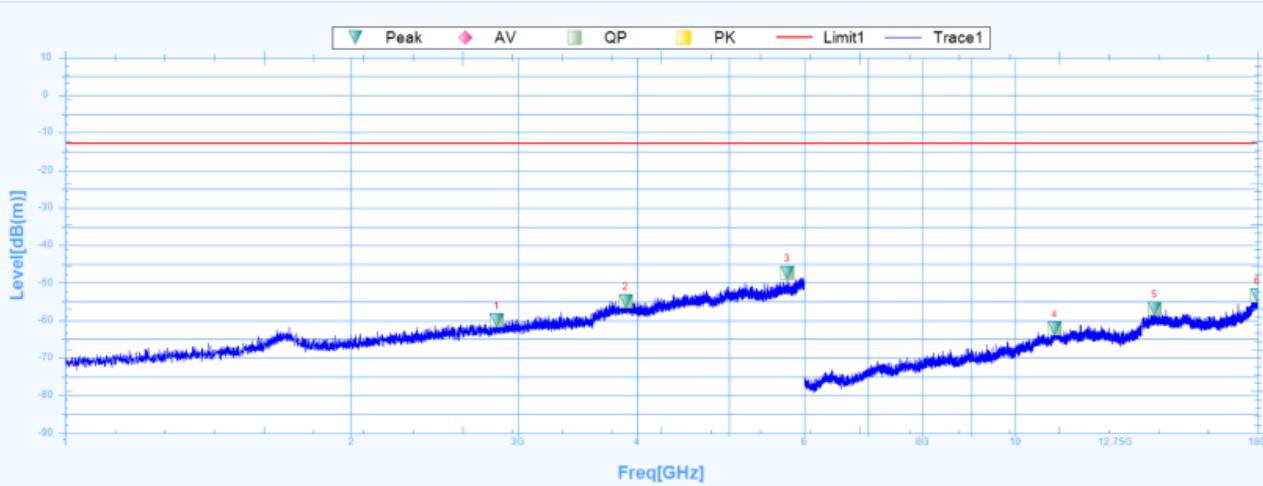
Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1674.3750	-62.84	24.94	-87.78	-13	-49.84	23.6	Vertical	PK	Pass
1	1674.3750		24.94		54		23.6	Vertical	AV	Pass
2	3402.5000	-49.53	28.44	-77.97	-13	-36.53	240	Vertical	PK	Pass
2	3402.5000		28.44		54		240	Vertical	AV	Pass
3	5760.6250	-47.37	32.42	-79.79	-13	-34.37	266.2	Vertical	PK	Pass
3	5760.6250		32.42		54		266.2	Vertical	AV	Pass
4	11206.5000	-61.99	15.73	-77.72	-13	-48.99	265.9	Vertical	PK	Pass
4	11206.5000		15.73		54		265.9	Vertical	AV	Pass
5	14079.0000	-57.15	19.05	-76.2	-13	-44.15	80.6	Vertical	PK	Pass
5	14079.0000		19.05		54		80.6	Vertical	AV	Pass
6	17944.5000	-52.82	23.54	-76.36	-13	-39.82	40	Vertical	PK	Pass
6	17944.5000		23.54		54		40	Vertical	AV	Pass



Band 41:

Horizontal:

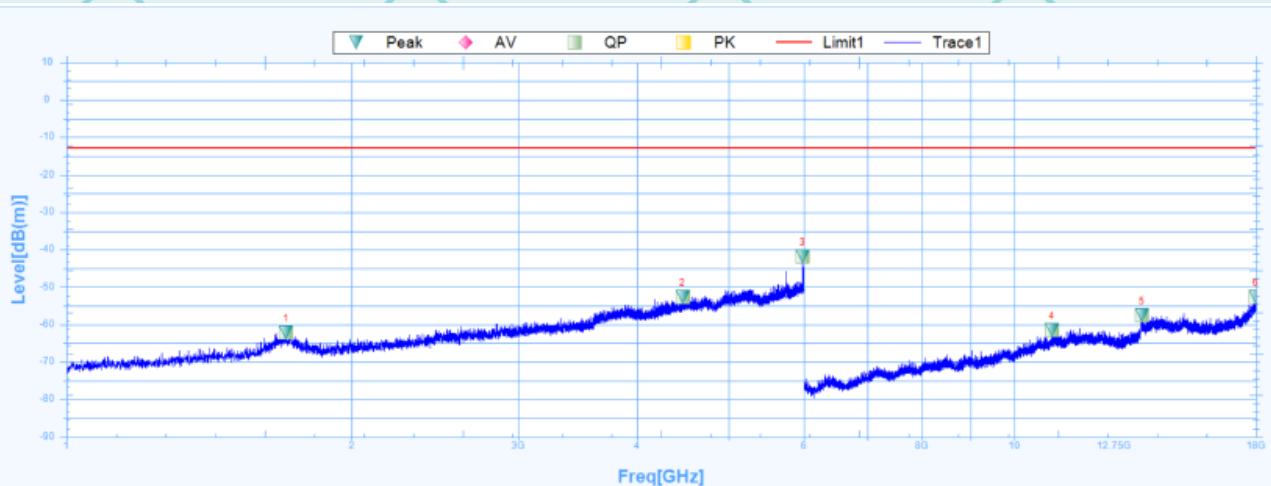


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2846.2500	-59.95	28.02	-87.97	-13	-46.95	267.4	Horizontal	PK	Pass
1	2846.2500		28.02		54		267.4	Horizontal	AV	Pass
2	3891.8750	-54.82	29.44	-84.26	-13	-41.82	359.5	Horizontal	PK	Pass
2	3891.8750		29.44		54		359.5	Horizontal	AV	Pass
3	5758.7500	-47.39	32.41	-79.8	-13	-34.39	348.6	Horizontal	PK	Pass
3	5758.7500		32.41		54		348.6	Horizontal	AV	Pass
4	11008.5000	-62.19	15.64	-77.83	-13	-49.19	0.6	Horizontal	PK	Pass
4	11008.5000		15.64		54		0.6	Horizontal	AV	Pass
5	14019.0000	-56.9	19.11	-76.01	-13	-43.9	360.1	Horizontal	PK	Pass
5	14019.0000		19.11		54		360.1	Horizontal	AV	Pass
6	17982.0000	-53.42	23.8	-77.22	-13	-40.42	86.6	Horizontal	PK	Pass
6	17982.0000		23.8		54		86.6	Horizontal	AV	Pass



Vertical:



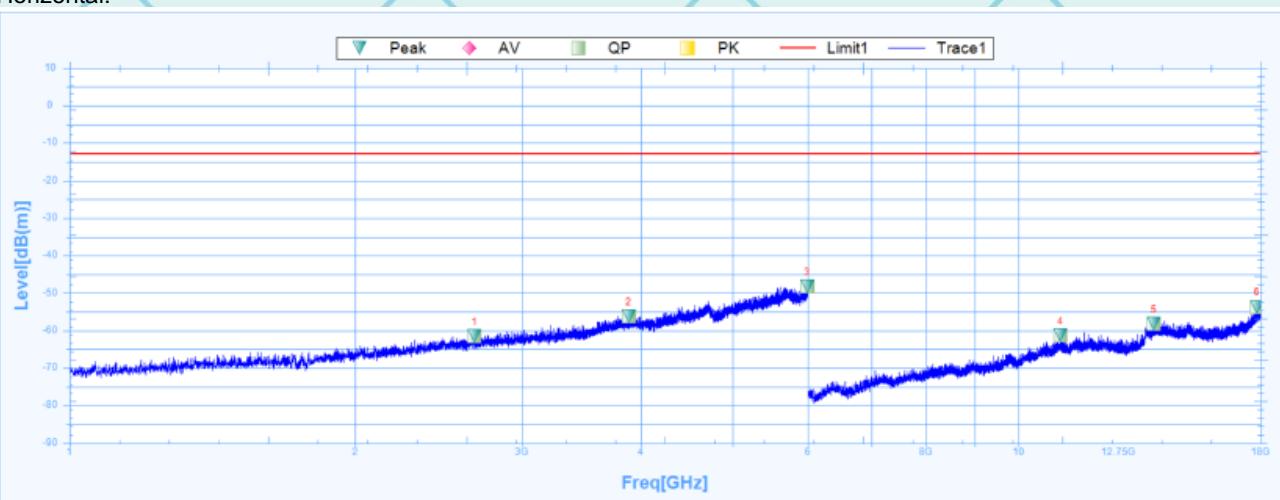
Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1705.0000	-62.11	24.95	-87.06	-13	-49.11	109.3	Vertical	PK	Pass
1	1705.0000		24.95		54		109.3	Vertical	AV	Pass
2	4470.0000	-52.63	30.55	-83.18	-13	-39.63	238.4	Vertical	PK	Pass
2	4470.0000		30.55		54		238.4	Vertical	AV	Pass
3	5984.3750	-41.93	32.78	-74.71	-13	-28.93	360.1	Vertical	PK	Pass
3	5984.3750		32.78		54		360.1	Vertical	AV	Pass
4	10959.0000	-61.57	15.39	-76.96	-13	-48.57	216.1	Vertical	PK	Pass
4	10959.0000		15.39		54		216.1	Vertical	AV	Pass
5	13642.5000	-57.6	18.09	-75.69	-13	-44.6	0	Vertical	PK	Pass
5	13642.5000		18.09		54		0	Vertical	AV	Pass
6	17982.0000	-52.66	23.8	-76.46	-13	-39.66	322.5	Vertical	PK	Pass
6	17982.0000		23.8		54		322.5	Vertical	AV	Pass



Band 66:

Horizontal:

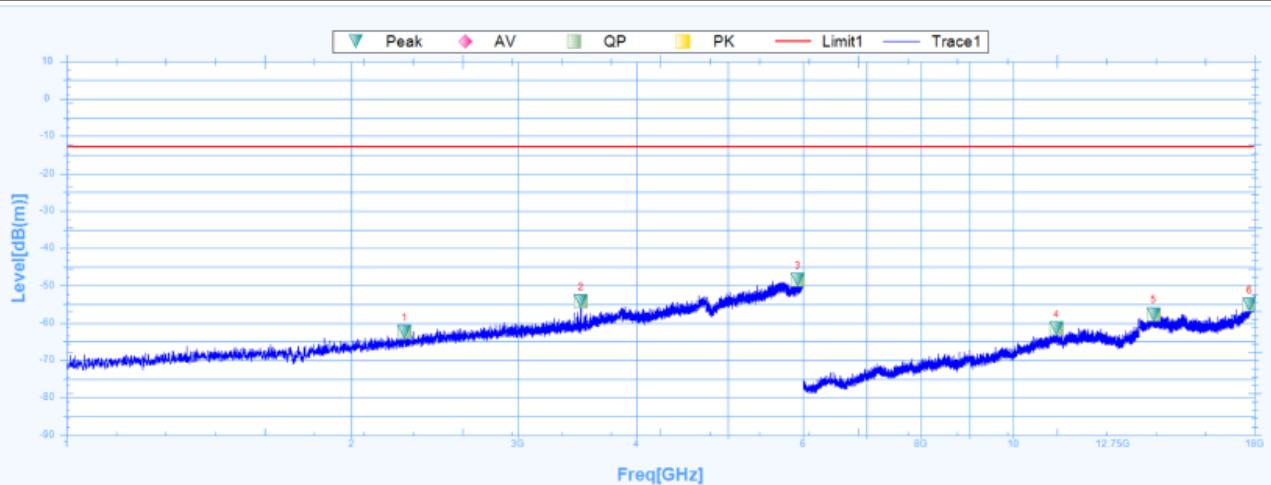


Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2671.8750	-61.49	27.81	-89.3	-13	-48.49	151.1	Horizontal	PK	Pass
1	2671.8750		27.81		54		151.1	Horizontal	AV	Pass
2	3883.7500	-56.12	29.42	-85.54	-13	-43.12	230.1	Horizontal	PK	Pass
2	3883.7500		29.42		54		230.1	Horizontal	AV	Pass
3	5992.5000	-48.27	32.79	-81.06	-13	-35.27	79.4	Horizontal	PK	Pass
3	5992.5000		32.79		54		79.4	Horizontal	AV	Pass
4	11077.5000	-61.2	15.87	-77.07	-13	-48.2	-0.1	Horizontal	PK	Pass
4	11077.5000		15.87		54		-0.1	Horizontal	AV	Pass
5	13900.5000	-58.13	18.83	-76.96	-13	-45.13	64.2	Horizontal	PK	Pass
5	13900.5000		18.83		54		64.2	Horizontal	AV	Pass
6	17848.5000	-53.65	22.93	-76.58	-13	-40.65	37.9	Horizontal	PK	Pass
6	17848.5000		22.93		54		37.9	Horizontal	AV	Pass



Vertical:



Suspected Data List

NO.	Freq. [MHz]	Reading [dB(m)]	Factor [dB]	Level [dB(m)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2275.6250	-62.3	26.84	-89.14	-13	-49.3	331.6	Vertical	PK	Pass
1	2275.6250		26.84		54		331.6	Vertical	AV	Pass
2	3497.5000	-54.2	28.5	-82.7	-13	-41.2	323.3	Vertical	PK	Pass
2	3497.5000		28.5		54		323.3	Vertical	AV	Pass
3	5927.5000	-48.46	32.68	-81.14	-13	-35.46	360	Vertical	PK	Pass
3	5927.5000		32.68		54		360	Vertical	AV	Pass
4	11118.0000	-61.51	15.85	-77.36	-13	-48.51	162.2	Vertical	PK	Pass
4	11118.0000		15.85		54		162.2	Vertical	AV	Pass
5	14080.5000	-57.63	19.05	-76.68	-13	-44.63	3.4	Vertical	PK	Pass
5	14080.5000		19.05		54		3.4	Vertical	AV	Pass
6	17784.0000	-55.17	22.52	-77.69	-13	-42.17	171.8	Vertical	PK	Pass
6	17784.0000		22.52		54		171.8	Vertical	AV	Pass



9. OCCUPIED BANDWIDTH& EMISSION BANDWIDTH

Test limit:

The occupied bandwidth (OBW), that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission, shall be measured when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through any filter networks, pseudo-random generators or other devices required in normal service. Additionally, the occupied bandwidth shall be shown for operation with any devices used for modifying the spectrum when such devices are optional at the discretion of the user. [i]2.1049(h)]

Many of the individual rule parts specify a relative OBW in lieu of the 99% OBW. In such cases, the OBW is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated by at least X dB below the transmitter power, where the value of X is typically specified as 26.

The relative OBW must be measured and reported when it is specified in the applicable rule part; otherwise, the 99% OBW shall be measured and reported. The test report shall specify which OBW is reported.

A spectrum/signal analyzer or other instrument providing a spectral display is recommended for these measurements and the video bandwidth shall be set to a value at least three times greater than the IF/resolution bandwidth to avoid any amplitude smoothing. Video filtering shall not be used during occupied bandwidth tests.

The OBW shall be measured for all operating conditions that will affect the bandwidth results (e.g. variable modulations, coding, or channel bandwidth settings). See section 4.

Test procedure:

Occupied bandwidth – relative measurement procedure

The reference value is the highest level of the spectral envelope of the modulated signal.

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.

b) The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to prevent the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least $10\log(\text{OBW} / \text{RBW})$ below the reference level.

d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.

e) The dynamic range of the spectrum analyzer at the selected RBW shall be at least 10 dB below the target “-X dB down” requirement (i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference value).

f) Set the detection mode to peak, and the trace mode to max hold.

g) Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).

h) Determine the “-X dB down amplitude” as equal to (Reference Value – X). Alternatively, this calculation can be performed by the analyzer by using the marker-delta function.

i) Place two markers, one at the lowest and the other at the highest frequency of the

envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step g). If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.

j) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Occupied bandwidth – power bandwidth (99%) measurement procedure

The following procedure shall be used for measuring (99 %) power bandwidth

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.

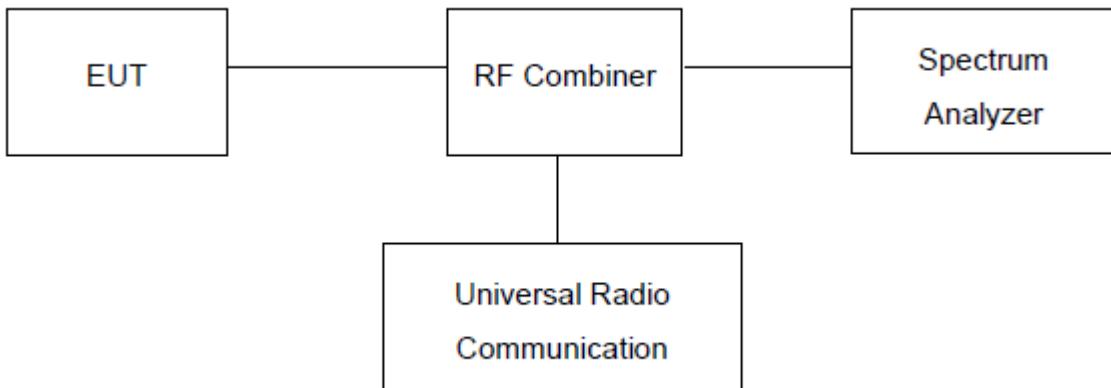
e) Set the detection mode to peak, and the trace mode to max hold..

f) Use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

g) If the instrument does not have a 99 % power bandwidth function, the trace data points are to be recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % power bandwidth is the difference between these two frequencies.

h) The OBW shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Test setup:



9.1. Measurement Result

GSM850:

Frequency	OBW(99%)	26dB BW
824.3	240.38KHz	315.71KHz
836.7	245.19KHz	315.71KHz
848.9	245.19KHz	314.10KHz

PCS1900:

Frequency	OBW(99%)	26dB BW
1850.3	246.79KHz	318.91KHz
1880.1	245.19KHz	318.91KHz
1909.9	245.19KHz	312.50KHz

GPRS850:

Frequency	OBW(99%)	26dB BW
824.2	246.79KHz	315.71KHz
836.6	245.19KHz	317.31KHz
848.8	245.19KHz	315.71KHz

GPRS 1900:

Frequency	OBW(99%)	26dB BW
1850.2	245.19KHz	318.91KHz
1880	246.79KHz	315.71KHz
1909.8	243.59KHz	310.90KHz

EGPRS 850:

Frequency	OBW(99%)	26dB BW
824.2	245.19KHz	312.50KHz
836.6	246.79KHz	315.71KHz
848.8	246.79KHz	318.91KHz

EGPRS 1900:

Frequency	OBW(99%)	26dB BW
1850.2	245.19KHz	315.71KHz
1880	245.19KHz	318.91KHz
1909.8	245.19KHz	320.83KHz

UTRA BANDS
Band 2:

Frequency	OBW(99%)	26dB BW
1851.5	4.183MHz	4.679MHz
1879.1	4.167MHz	4.712MHz
1906.6	4.151MHz	4.728MHz

Band 4:

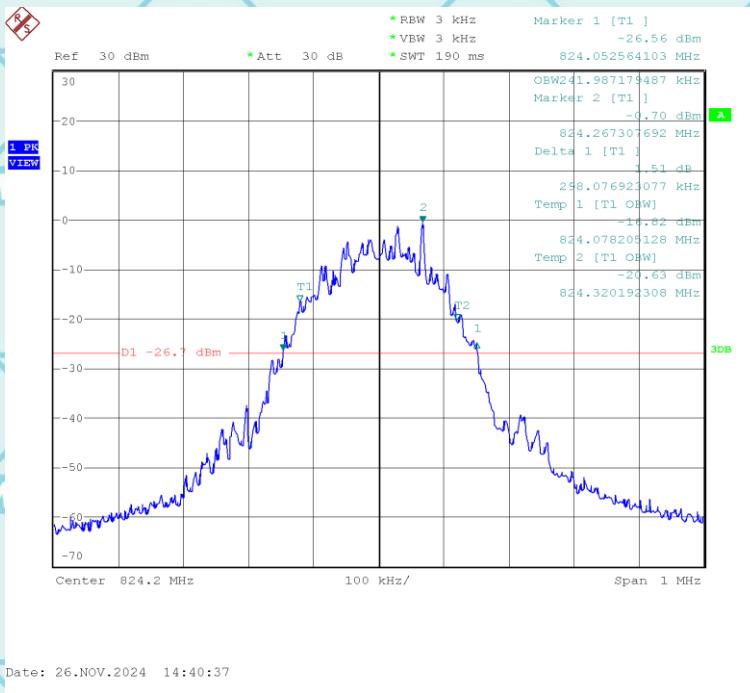
Frequency	OBW(99%)	26dB BW
1711.5	4.167MHz	4.679MHz
1731.7	4.167MHz	4.696MHz
1751.7	4.167MHz	4.696MHz

Band 5:

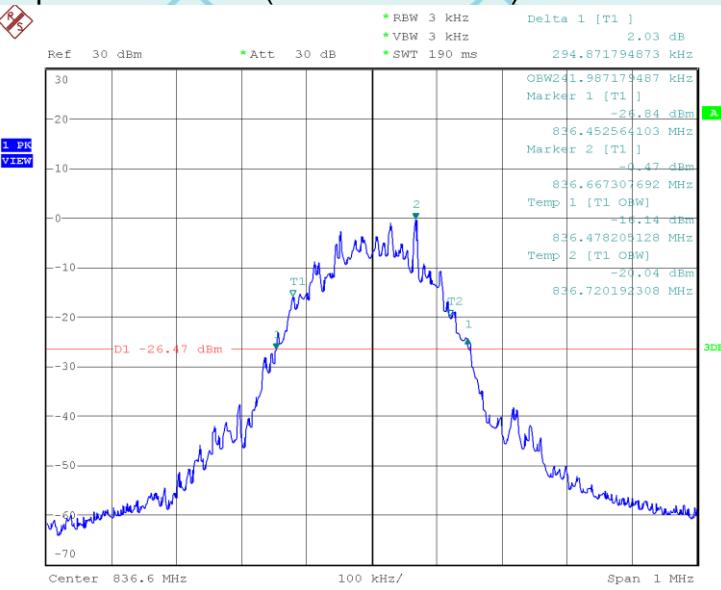
Frequency	OBW(99%)	26dB BW
825.5	4.167MHz	4.712MHz
835.5	4.167MHz	4.712MHz
845.7	4.151MHz	4.151MHz

Test Plot(s)

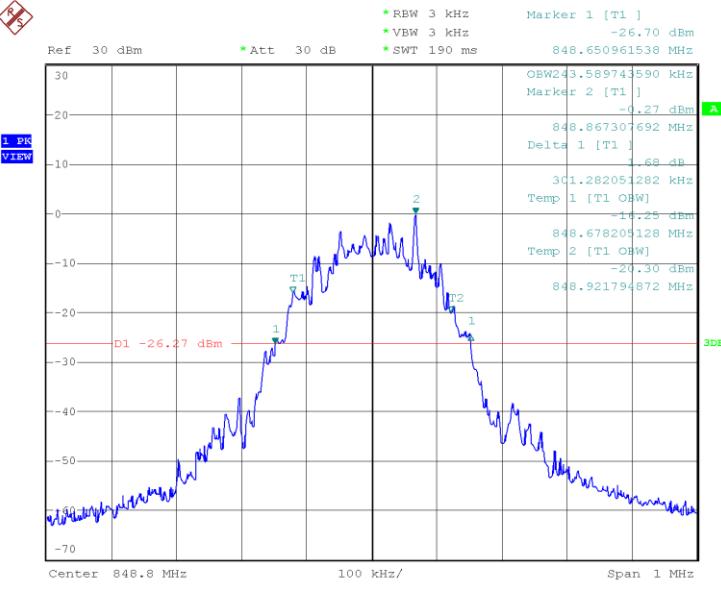
Occupied Bandwidth (99% and -26dBc) GSM 850 Band CH 128



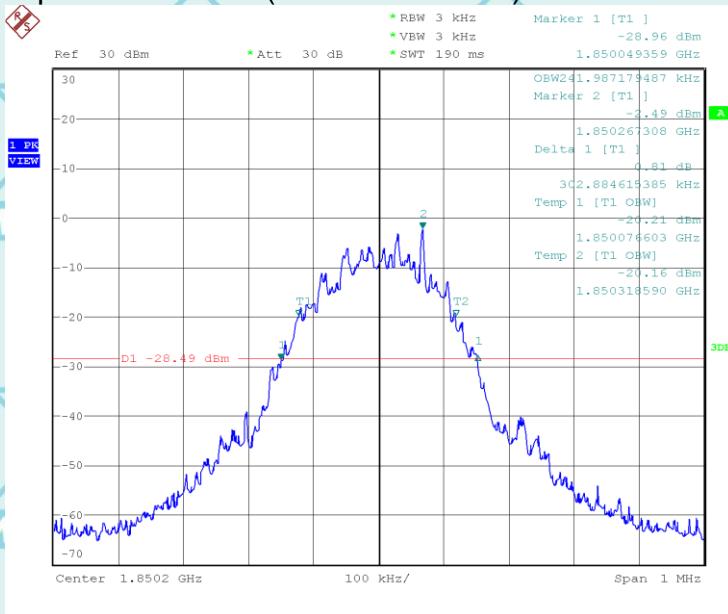
Occupied Bandwidth (99% and -26dBc) GSM 850 Band CH 190



Occupied Bandwidth (99% and -26dBc) GSM 850 Band CH 251

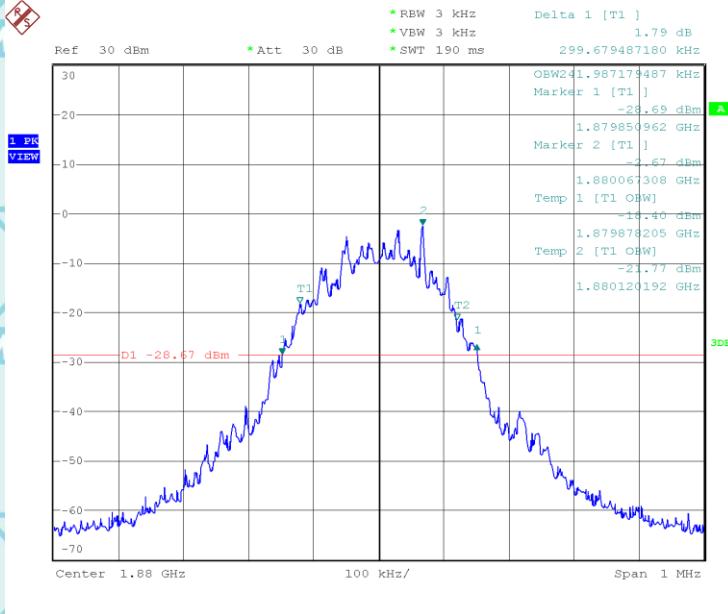


Occupied Bandwidth (99% and -26dBc) PCS 1900 Band CH 512



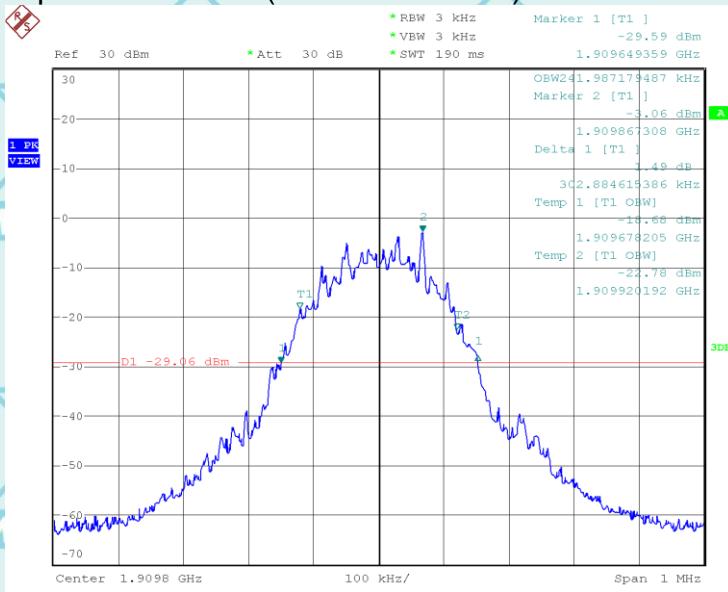
Date: 26.NOV.2024 15:06:27

Occupied Bandwidth (99% and -26dBc) PCS 1900 Band CH 661



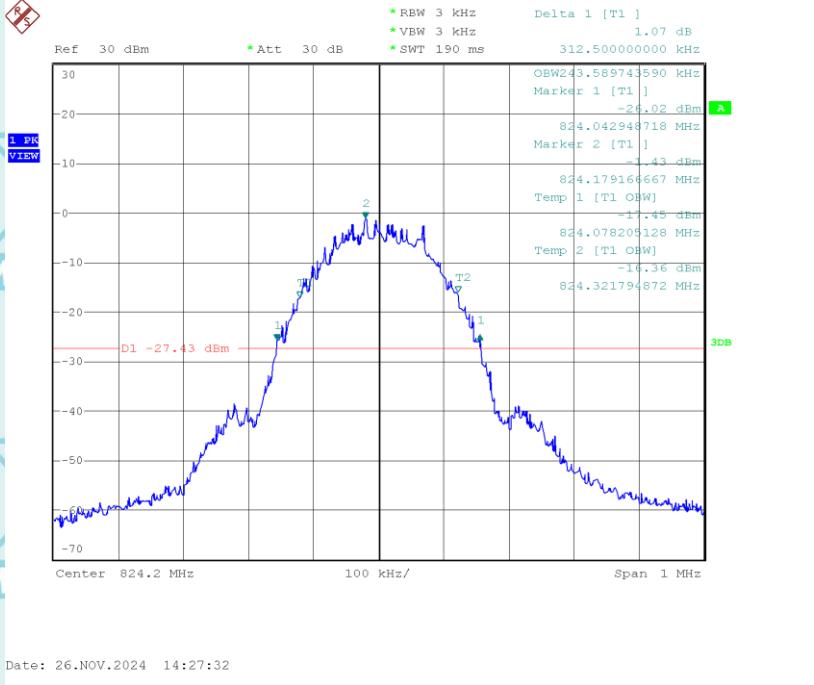
Date: 26.NOV.2024 15:04:45

Occupied Bandwidth (99% and -26dBc) PCS 1900 Band CH 810



Date: 26.NOV.2024 15:02:46

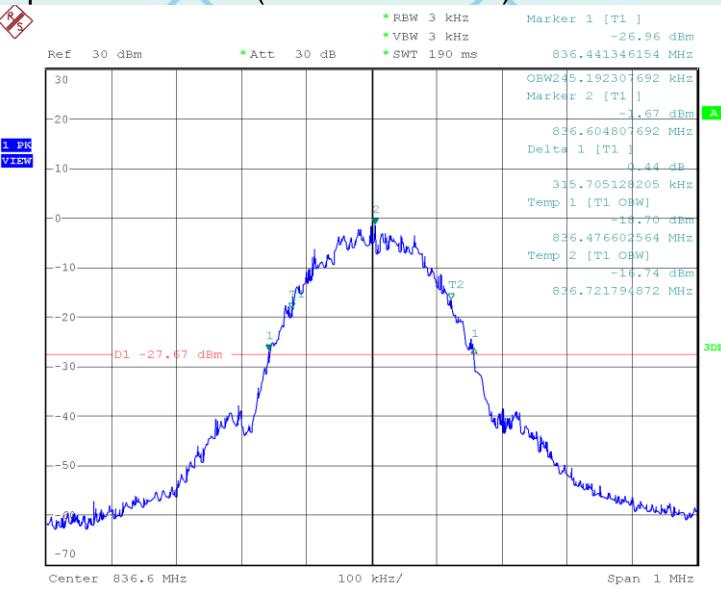
Occupied Bandwidth (99% and -26dBc) GPRS 850 Band CH 128



Date: 26.NOV.2024 14:27:32



Occupied Bandwidth (99% and -26dBc) GPRS 850 Band CH 190



Occupied Bandwidth (99% and -26dBc) GPRS 850 Band CH 251

