MEASUREMENT OF OCCUPIED BANDWIDTH

SECTION 24.238(b) – Measurement 3A

SECTION 2.1049 – Measurement 3B

MEASUREMENT: 3A

SECTION 24.238(b)

MEASUREMENT OF OCCUPIED BANDWIDTH

The occupied bandwidth of the FCC ID: AS5BTS2K-01 "GSM 1900 Transceiver" model SRFU19 was measured using a HP 8563E Spectrum Analyzer and an HP Model 7470A Plotter. The Hp 8563E is designed to measure 99% power bandwidth. The measurements were made for Left Edge, and Right Edge of each PCS band.

Section 24.238(b) requires that Resolution Bandwidth (RWB) of at least 1% of emission bandwidth be used to demonstrate RF antenna conducted out-of-band emission compliance at the frequency block edges. Therefore occupied Bandwidth measurements in this section are required to determine RBW at band edges for Measurement 4, Spurious emissions at Antenna Terminals Section (2.1051)

Results: The plots are provided for Left and Right edges of each PCS band. The Measured 99% power bandwidth is 244 kHz. This determines:

(1) Emission type : 244KGXW
(2) Spectrum Analyzer RBW for measurement of antenna conducted emissions in the 1 MHz bands immediately outside and adjacent to the frequency block. A RBW of 10 kHz in 1 MHz band immediately outside and adjacent to frequency blocks was used for Measurement 4.

MEASUREMENT: 3B

SECTION 2.1049

MEASUREMENT OF OCCUPIED BANDWIDTH

The occupied bandwidth of the FCC ID: AS5BTS2K-01 "GSM 1900 Transceiver" model SRFU19 was measured using a Rohde & Schwarz FSEK Spectrum Analyzer and an HP Model 520 DeskJet Printer. The RF power level was measured using a RF power meter as shown in the test setup in Figure 3A and 3B. The Figure 3A shows occupied Bandwidth measurement after the combiner and Figure 3B shows occupied Bandwidth before the combiner. The RF output from the transmitter to spectrum analyzer was reduced (to an amplitude usable by the spectrum analyzer) by using a calibrated attenuator. The reference line on the spectrum analyzer display correspond to level measured by the RF power meter.

The channel allocations with corresponding frequencies are given in the next page. The channels are available on each authorized frequency blocks are also indicated. The frequencies and channels used are tabulated on the bottom of each plot. Output signal is plotted for a frequency span of 2.4 MHz with channel frequency as center. Plots are provided for Left Edge, Center and Right Edge of each PCS band. These frequencies were chosen to show the occupied bandwidth in the channels in each of the PCS in which this radio can be operated, in compliance with Section 24.229 and 24.238 (c) of the Commission code.

The measurement procedure and specification limits for Occupied Bandwidth are indicated in Section 4.2.1 "spectrum due to the modulation and wide band noise" and Figure A.6a: PCS 1900 BTS Modulation and Noise Spectrum Mask due to GMSK Modulation" of GSM 05.05 "European Standard (Telecommunication Series); Digital Cellular Telecommunication System (Phase 2+); Radio Transmission and Reception" (Release 1999). The measurements were made in accordance with GSM 05.05 using 30 kHz Spectrum Analyzer Resolution Bandwidth. The Resolution Bandwidth setting also meets commissions rule indicated in paragraph 24.238(b) "in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. For conducted spurious emission tests (See Measurement: 4) a resolution bandwidth of 1 MHz is used throughout."

Frequency range of PCS 1900 (n =512...810)

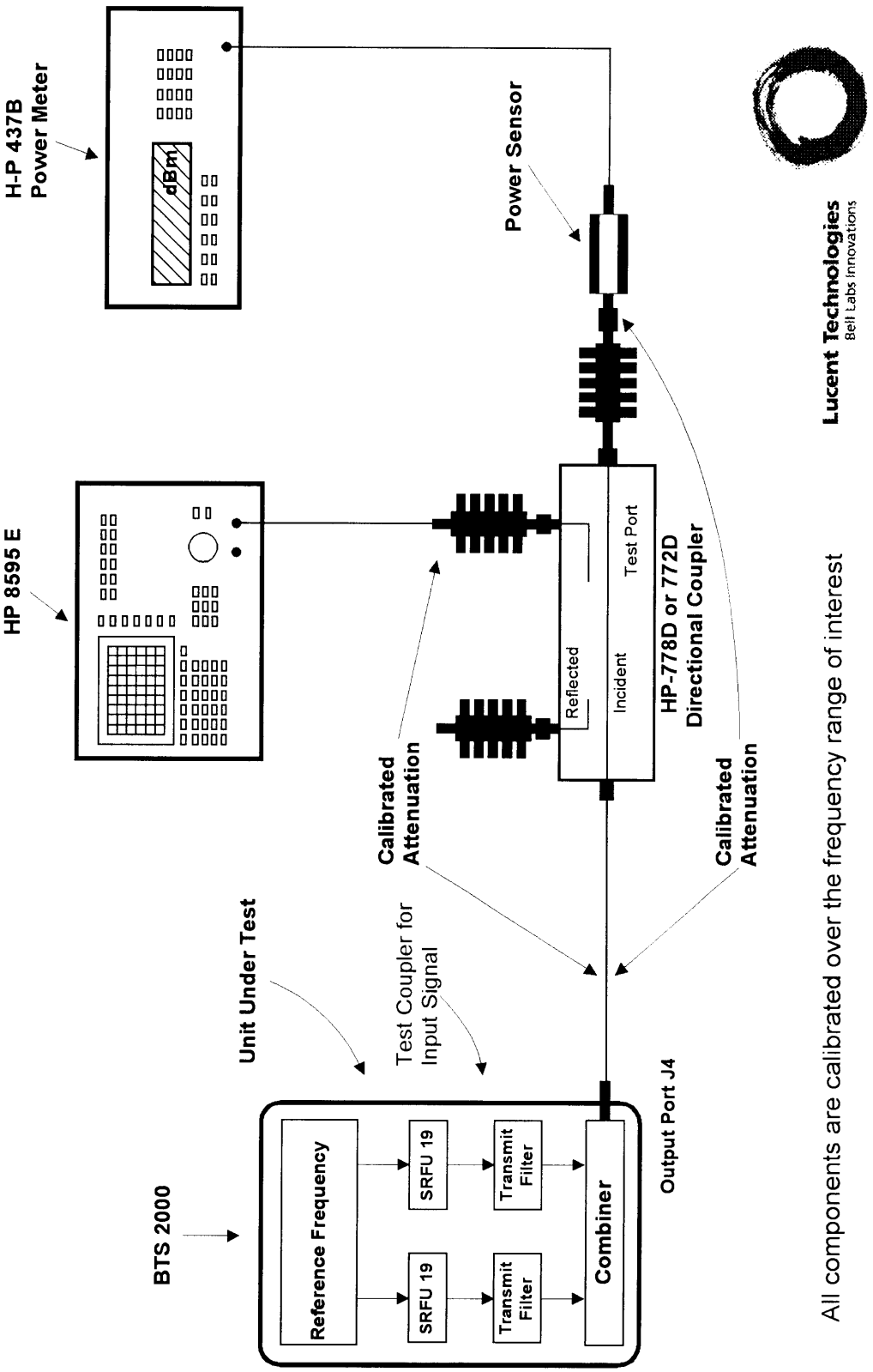
dl(n) = 1930.2 + 0.2*(n - 512)/MHz

ul(n) = 1850.2 + 0.2*(n - 512)/MHz

n	uplink	bl	downlink	n	uplink	bl	downlink	n	uplink	bl	downlink	n	uplink	bl	downlink	n	uplink	bl	downlink	n	uplink	bl	downlink	n	uplink	bl	downlink	n	uplink	bl	downlink
512	1850,2	x	1930,2	550	1857,8	A	1937,8	588	1865,4	D	1945,4	626	1873,0	B	1953,0	664	1880,6	B	1960,6	702	1888,2	E	1968,2	740	1895,8	C	1975,8	778	1903,4	C	1983,4
513	1850,4	A	1930,4	551	1858,0	A	1938,0	589	1865,6	D	1945,6	627	1873,2	B	1953,2	665	1880,8	B	1960,8	703	1888,4	E	1968,4	741	1896,0	C	1976,0	779	1903,6	C	1983,6
514	1850,6	A	1930,6	552	1858,2	A	1938,2	590	1865,8	D	1945,8	628	1873,4	B	1953,4	666	1881,0	B	1961,0	704	1888,6	E	1968,6	742	1896,2	C	1976,2	780	1903,8	C	1983,8
515	1850,8	A	1930,8	553	1858,4	A	1938,4	591	1866,0	D	1946,0	629	1873,6	B	1953,6	667	1881,2	B	1961,2	705	1888,8	E	1968,8	743	1896,4	C	1976,4	781	1904,0	C	1984,0
516	1851,0	A	1931,0	554	1858,6	A	1938,6	592	1866,2	D	1946,2	630	1873,8	B	1953,8	668	1881,4	B	1961,4	706	1889,0	E	1969,0	744	1896,6	C	1976,6	782	1904,2	C	1984,2
517	1851,2	A	1931,2	555	1858,8	A	1938,8	593	1866,4	D	1946,4	631	1874,0	B	1954,0	669	1881,6	B	1961,6	707	1889,2	E	1969,2	745	1896,8	C	1976,8	783	1904,4	C	1984,4
518	1851,4	A	1931,4	556	1859,0	A	1939,0	594	1866,6	D	1946,6	632	1874,2	B	1954,2	670	1881,8	B	1961,8	708	1889,4	E	1969,4	746	1897,0	C	1977,0	784	1904,6	C	1984,6
519	1851,6	A	1931,6	557	1859,2	A	1939,2	595	1866,8	D	1946,8	633	1874,4	B	1954,4	671	1882,0	B	1962,0	709	1889,6	E	1969,6	747	1897,2	C	1977,2	785	1904,8	C	1984,8
520	1851,8	A	1931,8	558	1859,4	A	1939,4	596	1867,0	D	1947,0	634	1874,6	B	1954,6	672	1882,2	B	1962,2	710	1889,8	x	1969,8	748	1897,4	C	1977,4	786	1905,0	C	1985,0
521	1852,0	A	1932,0	559	1859,6	A	1939,6	597	1867,2	D	1947,2	635	1874,8	B	1954,8	673	1882,4	B	1962,4	711	1890,0	x	1970,0	749	1897,6	C	1977,6	787	1905,2	C	1985,2
522	1852,2	A	1932,2	560	1859,8	A	1939,8	598	1867,4	D	1947,4	636	1875,0	B	1955,0	674	1882,6	B	1962,6	712	1890,2	x	1970,2	750	1897,8	C	1977,8	788	1905,4	C	1985,4
523	1852,4	A	1932,4	561	1860,0	A	1940,0	599	1867,6	D	1947,6	637	1875,2	B	1955,2	675	1882,8	B	1962,8	713	1890,4	F	1970,4	751	1898,0	C	1978,0	789	1905,6	C	1985,6
524	1852,6	A	1932,6	562	1860,2	A	1940,2	600	1867,8	D	1947,8	638	1875,4	B	1955,4	676	1883,0	B	1963,0	714	1890,6	F	1970,6	752	1898,2	C	1978,2	790	1905,8	C	1985,8
525	1852,8	A	1932,8	563	1860,4	A	1940,4	601	1868,0	D	1948,0	639	1875,6	B	1955,6	677	1883,2	B	1963,2	715	1890,8	F	1970,8	753	1898,4	C	1978,4	791	1906,0	C	1986,0
526	*1853,0*	A	1933,0	564	1860,6	A	1940,6	602	1868,2	D	1948,2	640	1875,8	B	1955,8	678	1883,4	B	1963,4	716	1891,0	F	1971,0	754	1898,6	C	1978,6	792	1906,2	C	1986,2
527	1853,2	A	1933,2	565	1860,8	A	1940,8	603	1868,4	D	1948,4	641	1876,0	B	1956,0	679	1883,6	B	1963,6	717	1891,2	F	1971,2	755	1898,8	C	1978,8	793	1906,4	C	1986,4
528	1853,4	A	1933,4	566	1861,0	A	1941,0	604	1868,6	D	1948,6	642	1876,2	B	1956,2	680	1883,8	B	1963,8	718	1891,4	F	1971,4	756	1899,0	C	1979,0	794	1906,6	C	1986,6
529	1853,6	A	1933,6	567	1861,2	A	1941,2	605	1868,8	D	1948,8	643	1876,4	B	1956,4	681	1884,0	B	1964,0	719	1891,6	F	1971,6	757	1899,2	C	1979,2	795	1906,8	C	1986,8
530	1853,8	A	1933,8	568	1861,4	A	1941,4	606	1869,0	D	1949,0	644	1876,6	B	1956,6	682	1884,2	B	1964,2	720	1891,8	F	1971,8	758	1899,4	C	1979,4	796	1907,0	C	1987,0
531	1854,0	A	1934,0	569	1861,6	A	1941,6	607	1869,2	D	1949,2	645	1876,8	B	1956,8	683	1884,4	B	1964,4	721	1892,0	F	1972,0	759	1899,6	C	1979,6	797	1907,2	C	1987,2
532	1854,2	A	1934,2	570	1861,8	A	1941,8	608	1869,4	D	1949,4	646	1877,0	B	1957,0	684	1884,6	B	1964,6	722	1892,2	F	1972,2	760	1899,8	C	1979,8	798	1907,4	C	1987,4
533	1854,4	A	1934,4	571	1862,0	A	1942,0	609	1869,6	D	1949,6	647	1877,2	B	1957,2	685	1884,8	x	1964,8	723	1892,4	F	1972,4	761	1900,0	C	1980,0	799	1907,6	C	1987,6
534	1854,6	A	1934,6	572	1862,2	A	1942,2	610	1869,8	x	1949,8	648	1877,4	B	1957,4	686	1885,0	x	1965,0	724	1892,6	F	1972,6	762	1900,2	C	1980,2	800	1907,8	C	1987,8
535	1854,8	A	1934,8	573	1862,4	A	1942,4	611	1870,0	x	1950,0	649	1877,6	B	1957,6	687	1885,2	x	1965,2	725	1892,8	F	1972,8	763	1900,4	C	1980,4	801	1908,0	C	1988,0
536	1855,0	A	1935,0	574	1862,6	A	1942,6	612	1870,2	x	1950,2	650	1877,8	B	1957,8	688	1885,4	E	1965,4	726	1893,0	F	1973,0	764	1900,6	C	1980,6	802	1908,2	C	1988,2
537	1855,2	A	1935,2	575	1862,8	A	1942,8	613	1870,4	B	1950,4	651	1878,0	B	1958,0	689	1885,6	E	1965,6	727	1893,2	F	1973,2	765	1900,8	C	1980,8	803	1908,4	C	1988,4
538	1855,4	A	1935,4	576	1863,0	A	1943,0	614	1870,6	B	1950,6	652	1878,2	B	1958,2	690	1885,8	E	1965,8	728	1893,4	F	1973,4	766	1901,0	C	1981,0	804	1908,6	C	1988,6
539	1855,6	A	1935,6	577	1863,2	A	1943,2	615	1870,8	B	1950,8	653	1878,4	B	1958,4	691	1886,0	E	1966,0	729	1893,6	F	1973,6	767	1901,2	C	1981,2	805	1908,8	C	1988,8
540	1855,8	A	1935,8	578	1863,4	A	1943,4	616	1871,0	B	1951,0	654	1878,6	B	1958,6	692	1886,2	E	1966,2	730	1893,8	F	1973,8	768	1901,4	C	1981,4	806	1909,0	C	1989,0
541	1856,0	A	1936,0	579	1863,6	A	1943,6	617	1871,2	B	1951,2	655	1878,8	B	1958,8	693	1886,4	E	1966,4	731	1894,0	F	1974,0	769	1901,6	C	1981,6	807	1909,2	C	1989,2
542	1856,2	A	1936,2	580	1863,8	A	1943,8	618	1871,4	B	1951,4	656	1879,0	B	1959,0	694	1886,6	E	1966,6	732	1894,2	F	1974,2	770	1901,8	C	1981,8	808	1909,4	C	1989,4
543	1856,4	A	1936,4	581	1864,0	A	1944,0	619	1871,6	B	1951,6	657	1879,2	B	1959,2	695	1886,8	E	1966,8	733	1894,4	F	1974,4	771	1902,0	C	1982,0	809	1909,6	C	1989,6
544	1856,6	A	1936,6	582	1864,2	A	1944,2	620	1871,8	B	1951,8	658	1879,4	B	1959,4	696	1887,0	E	1967,0	734	1894,6	F	1974,6	772	1902,2	C	1982,2	810	1909,8	x	1989,8
545	1856,8	A	1936,8	583	1864,4	A	1944,4	621	1872,0	B	1952,0	659	1879,6	B	1959,6	697	1887,2	E	1967,2	735	1894,8	x	1974,8	773	1902,4	C	1982,4				
546	1857,0	A	1937,0	584	1864,6	A	1944,6	622	1872,2	B	1952,2	660	1879,8	B	1959,8	698	1887,4	E	1967,4	736	1895,0	x	1975,0	774	1902,6	C	1982,6				
547	1857,2	A	1937,2	585	1864,8	x	1944,8	623	1872,4	B	1952,4	661	1880,0	B	1960,0	699	1887,6	E	1967,6	737	1895,2	x	1975,2	775	1902,8	C	1982,8				
548	1857,4	A	1937,4	586	1865,0	x	1945,0	624	1872,6	B	1952,6	662	1880,2	B	1960,2	700	1887,8	E	1967,8	738	1895,4	C	1975,4	776	1903,0	C	1983,0				
549	1857,6	A	1937,6	587	1865,2	x	1945,2	625	1872,8	B	1952,8	663	1880,4	B	1960,4	701	1888,0	E	1968,0	739	1895,6	C	1975,6	777	1903,2	C	1983,2				

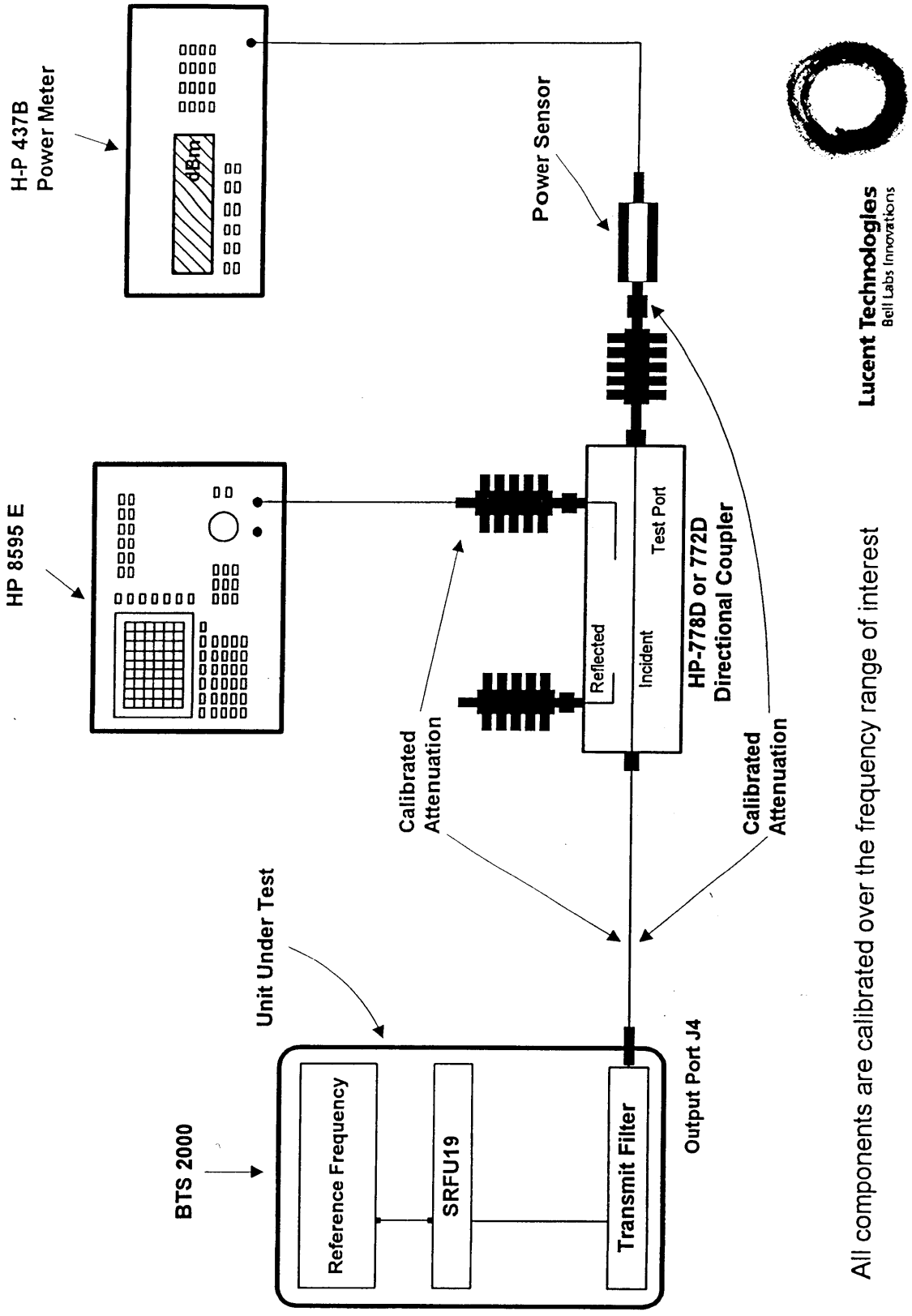
Note:. Channels high lighted are **not available for GSM1900**, in accordance with **FCC Part 24**

Figure 3A TEST CONFIGURATION FOR OCCUPIED BANDWIDTH



All components are calibrated over the frequency range of interest

Figure 3B. TEST CONFIGURATION FOR OCCUPIED BANDWIDTH



MEASUREMENT: 3A

MEASUREMENT

OF

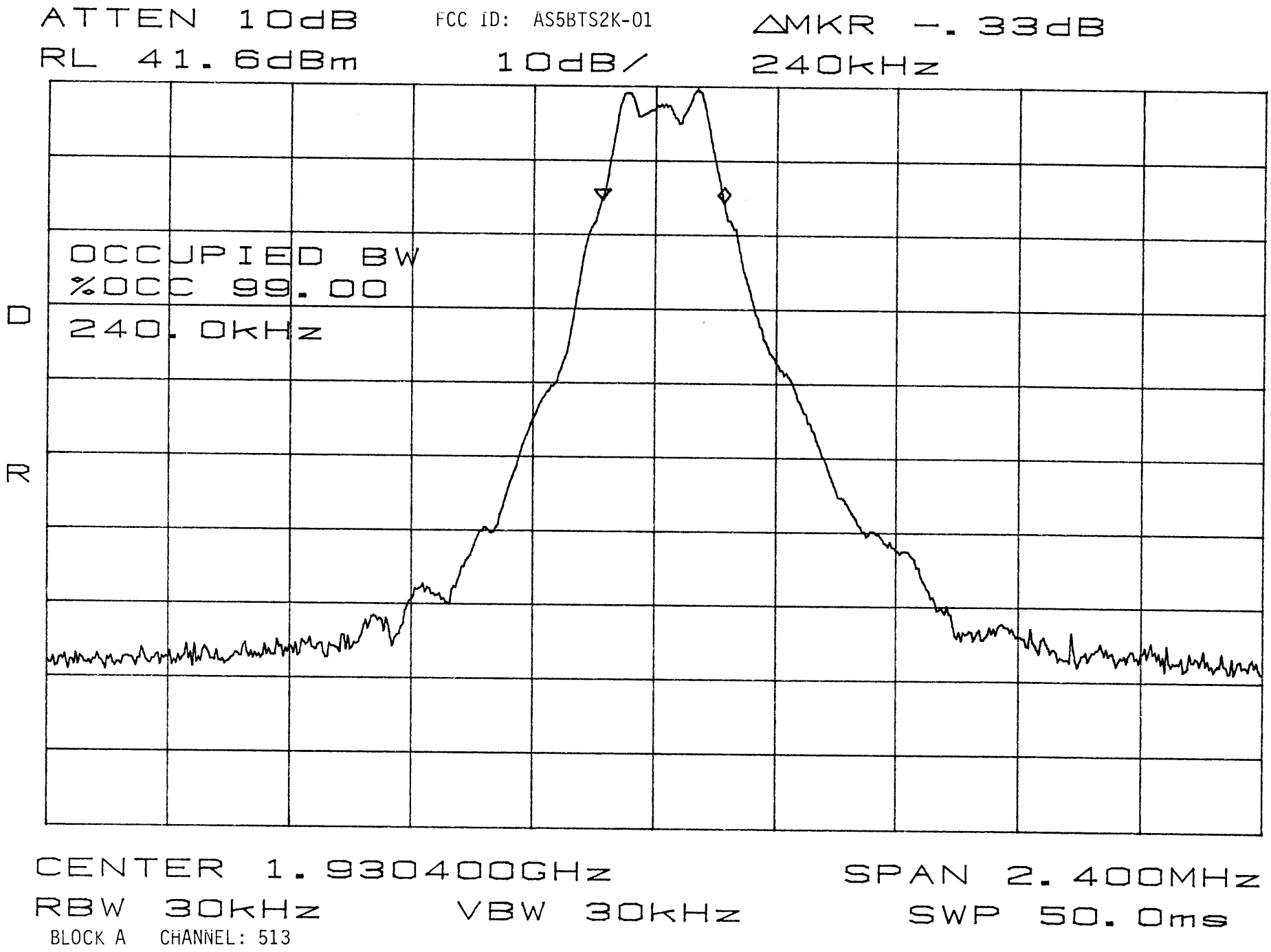
OCCUPIED BANDWIDTH AT

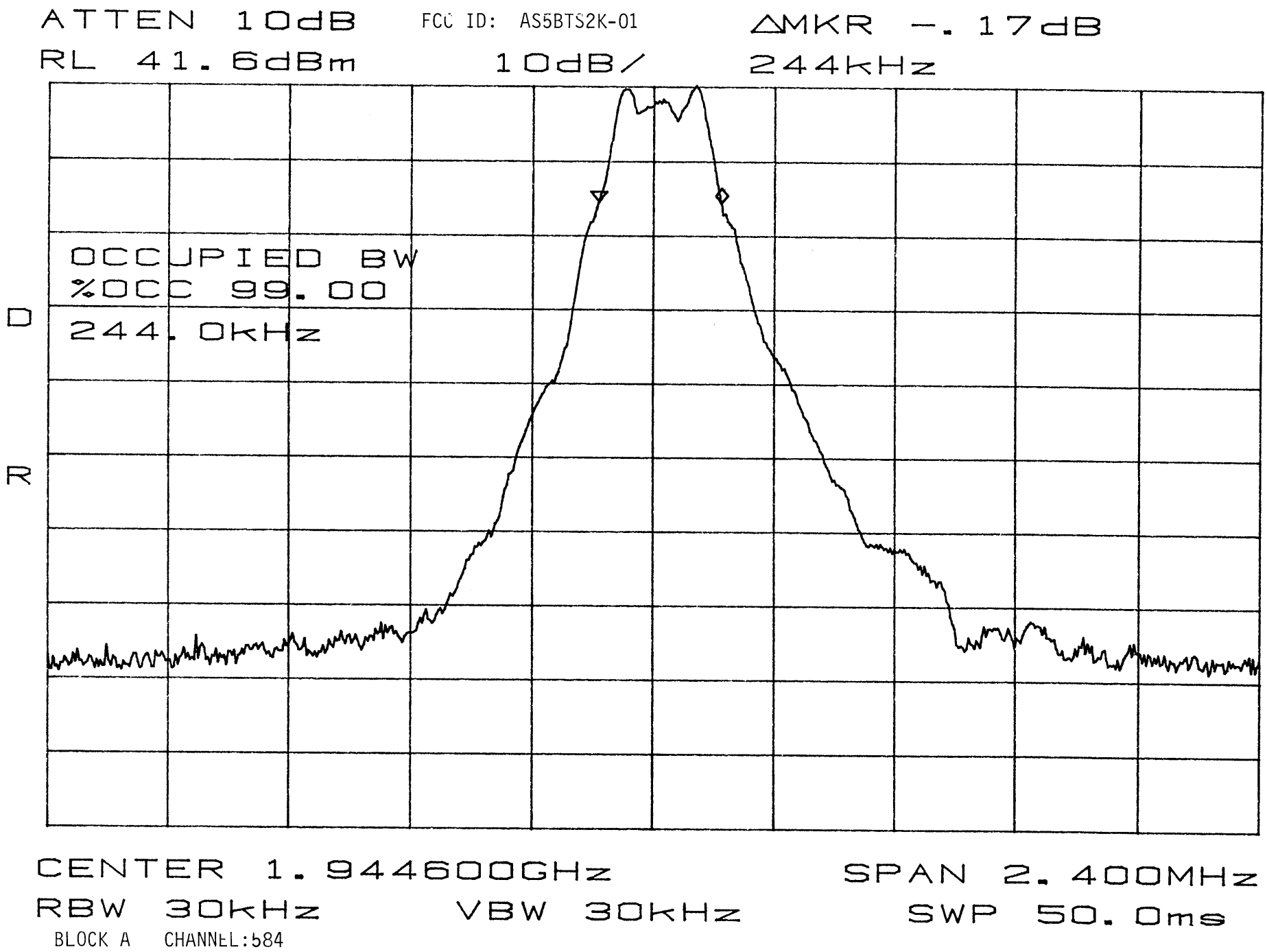
99% OF POWER

BLOCK A

(1930 – 1945 MHz)

Left Edge: 1930.4 MHz (Channel 513)
Right Edge: 1944.6 MHz (Channel 584)


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.33dB
RL 41.6dBm
10dB/
240kHz
OCCUPIED BW
%OCC 99.00
240.0kHz
D
R
CENTER 1.930400GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK A CHANNEL: 513


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.17dB
RL 41.6dBm
10dB/
244kHz
OCCUPIED BW
%OCC 99.00
244.0kHz
D
R
CENTER 1.944600GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK A CHANNEL:584

MEASUREMENT: 4A

MEASUREMENT

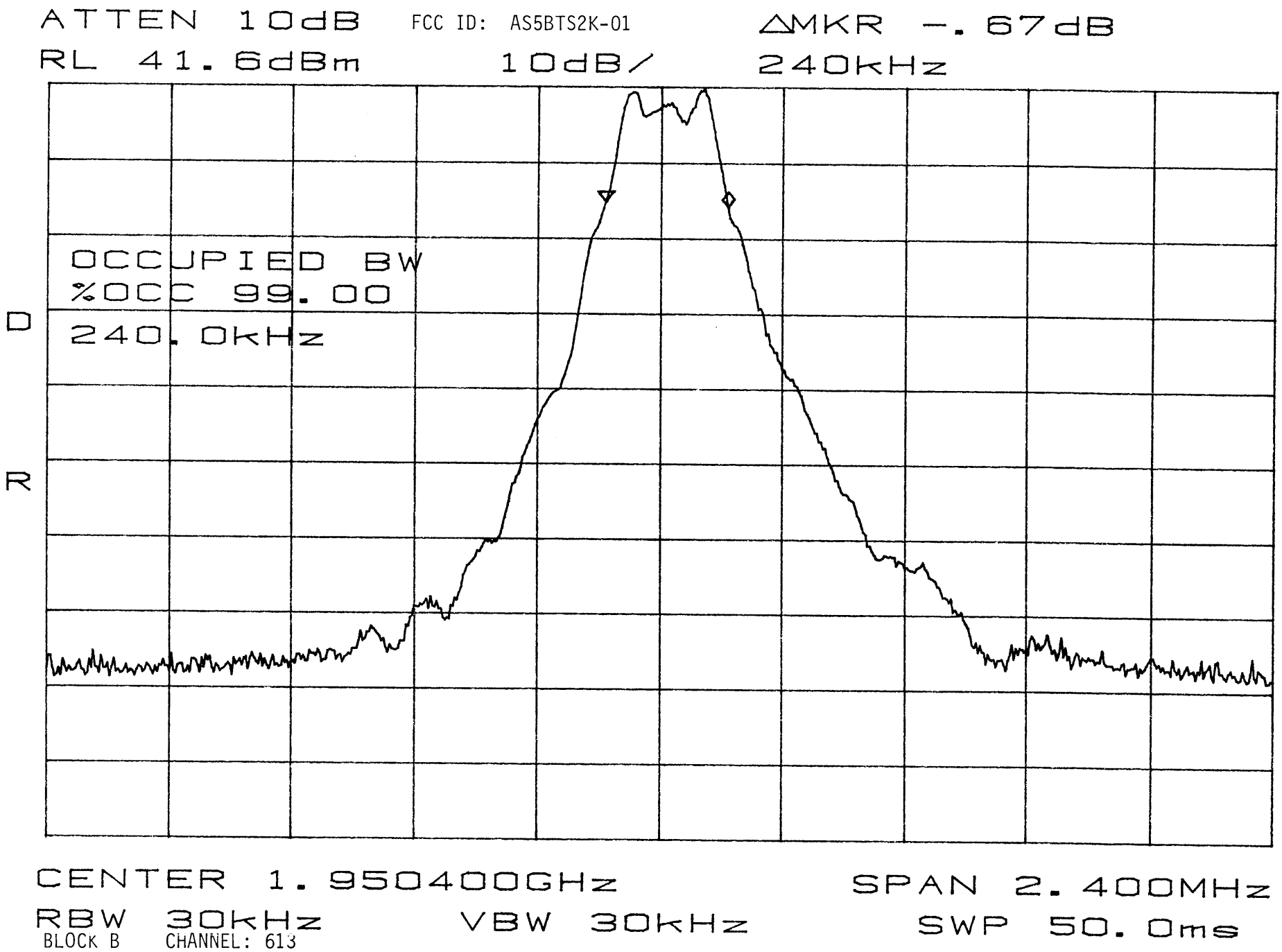
OF SPURIOUS EMISSIONS AT

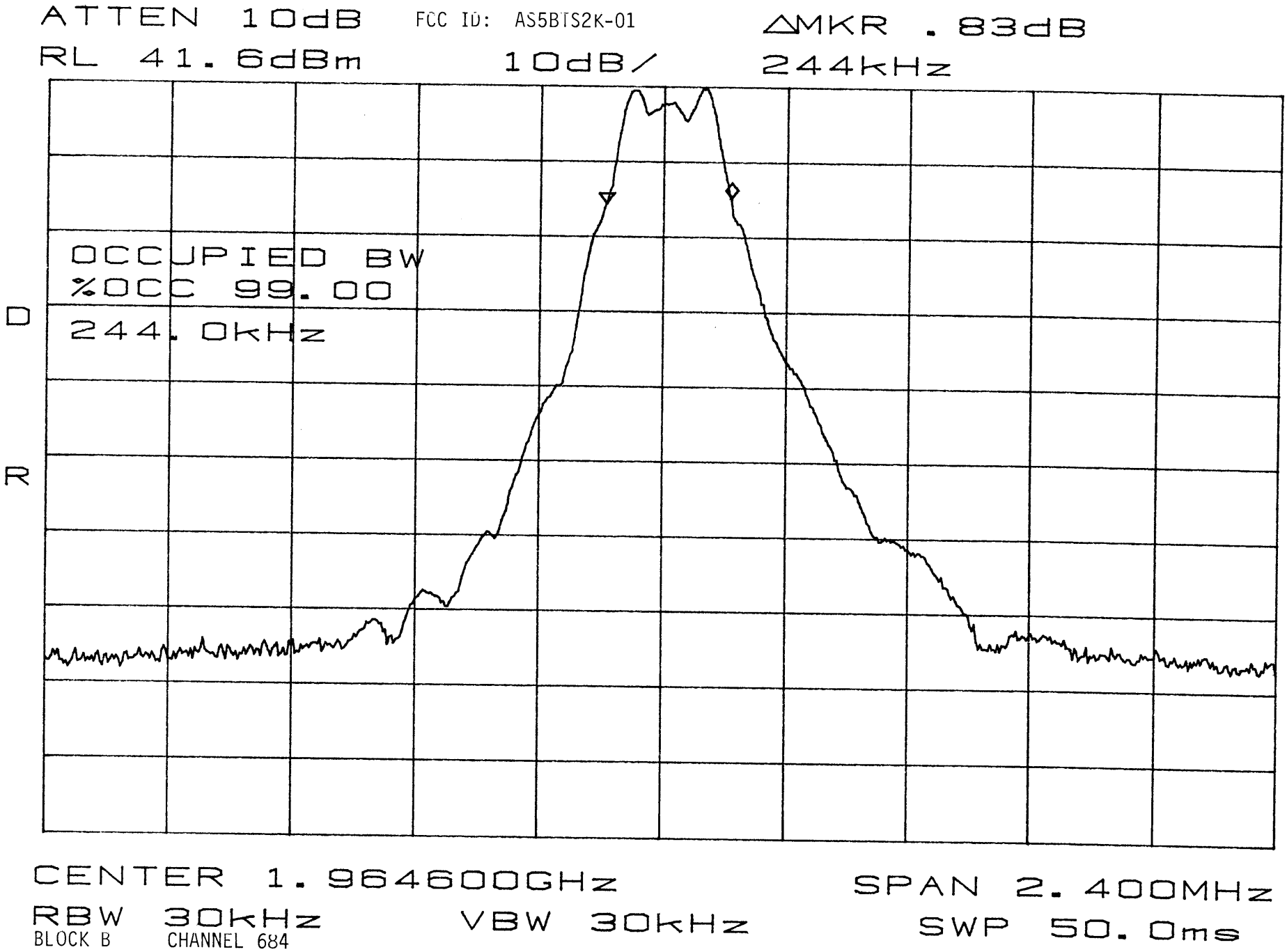
99% OF POWER

BLOCK B

(1950 – 1965 MHz)

Left Edge: 1950.4 MHz (Channel 613)
Right Edge: 1964.6 MHz (Channel 684)


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.67dB
RL 41.6dBm
10dB/
240kHz
OCCUPIED BW
%OCC 99.00
240.0kHz
D
R
CENTER 1.950400GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK B
CHANNEL: 613


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR .83dB
RL 41.6dBm
10dB/
244kHz
OCCUPIED BW
%OCC 99.00
244.0kHz
D
R
CENTER 1.964600GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK B
CHANNEL 684

MEASUREMENT: 3A

MEASUREMENT

OF

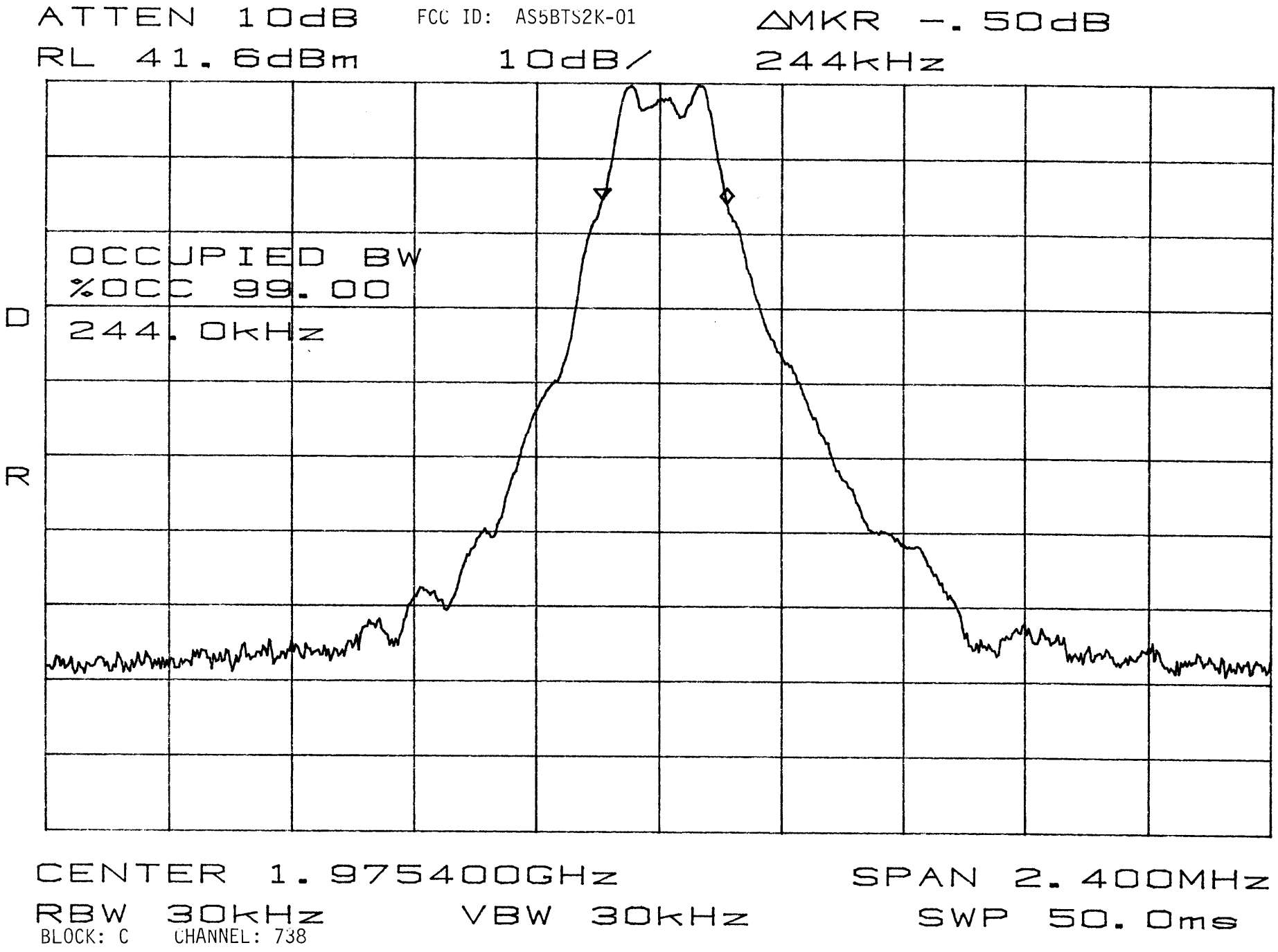
OCCUPIED BANDWIDTH AT

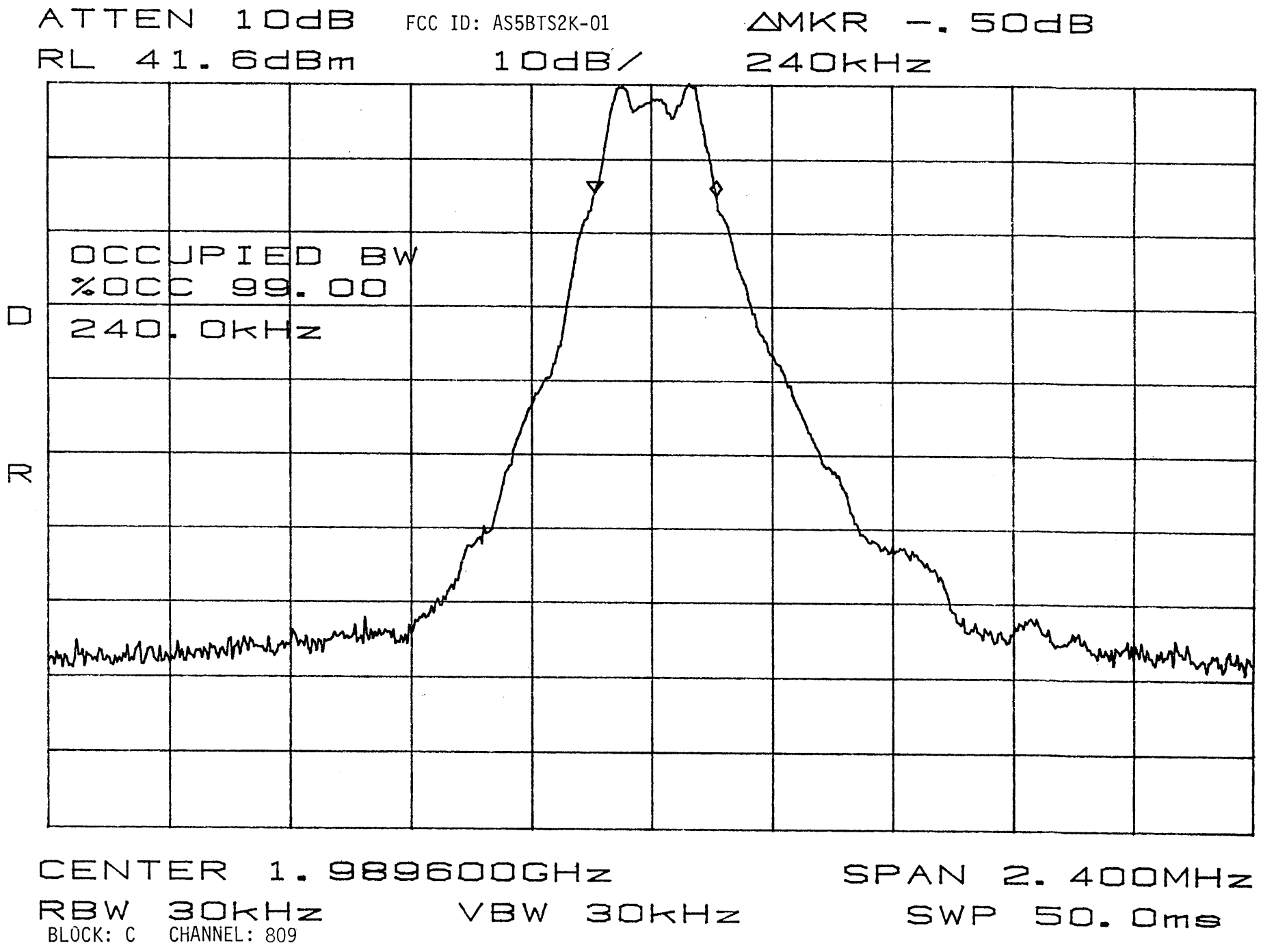
99% OF POWER

BLOCK C

(1975 – 1990 MHz)

Left Edge: 1975.4 MHz (Channel 738)
Right Edge: 1989.6 MHz (Channel 809)


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.50dB
RL 41.6dBm
10dB/
244kHz
OCCUPIED BW
%OCC 99.00
244.0kHz
D
R
CENTER 1.975400GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: C
CHANNEL: 738


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.50dB
RL 41.6dBm
10dB/
240kHz
OCCUPIED BW
%OCC 99.00
240.0kHz
D
R
CENTER 1.989600GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: C CHANNEL: 809

MEASUREMENT: 3A

MEASUREMENT

OF

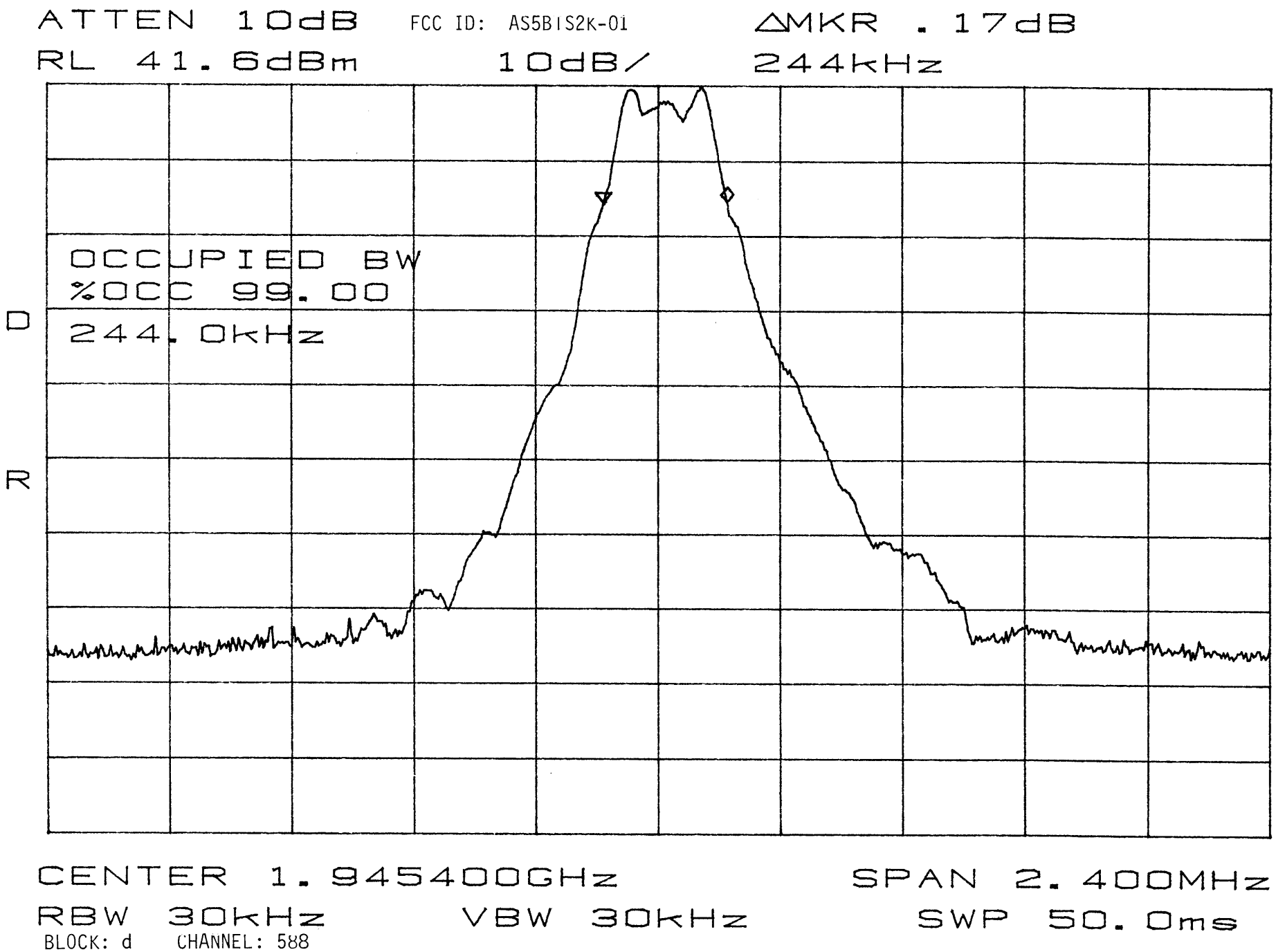
OCCUPIED BANDWIDTH AT

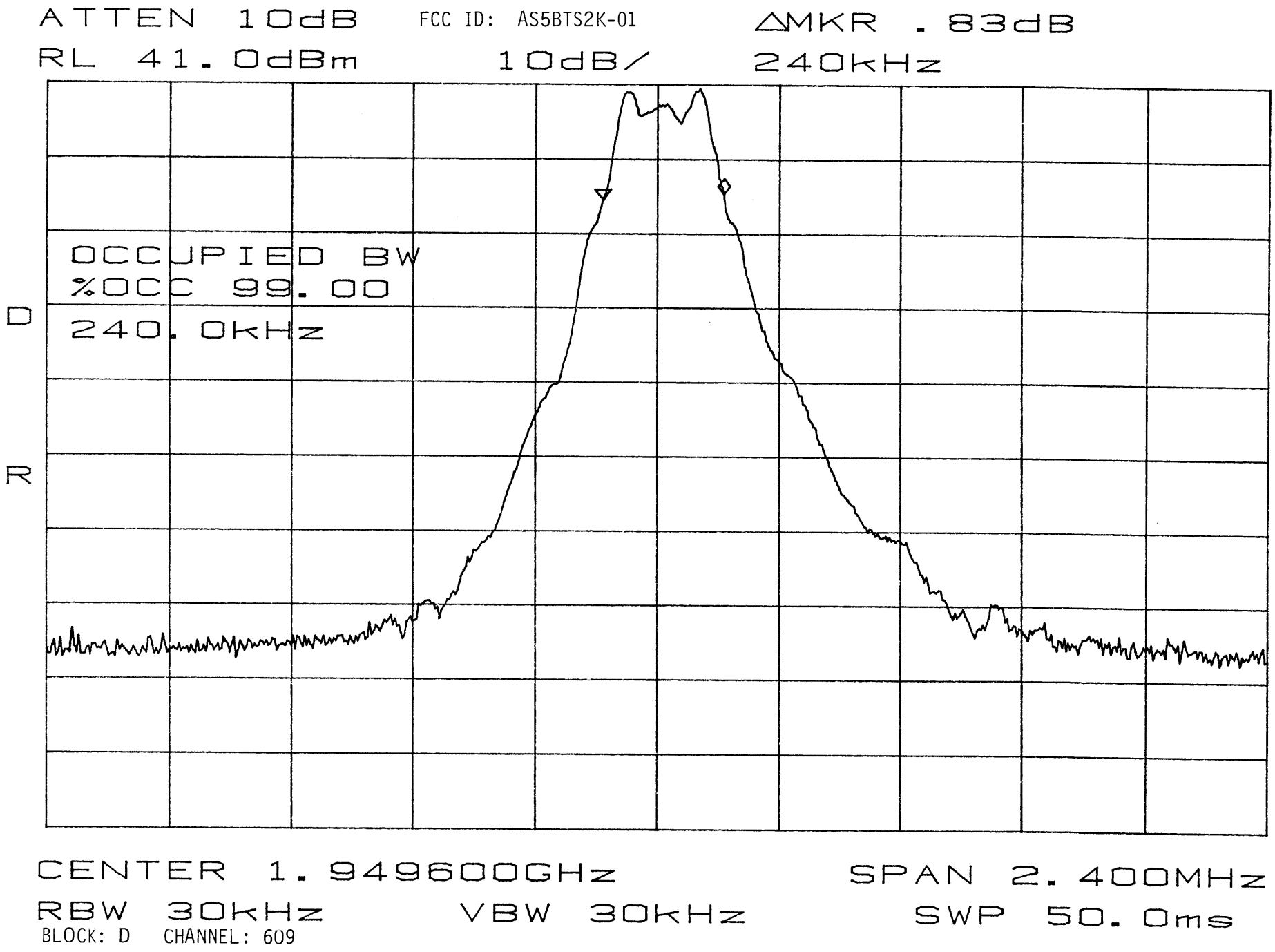
99% OF POWER

BLOCK D

(1945 – 1950 MHz)

Left Edge: 1945.4 MHz (Channel 588)
Right Edge: 1949.6 MHz (Channel 609)


ATTEN 10dB
FCC ID: AS5BIS2K-01
ΔMKR .17dB
RL 41.6dBm
10dB/
244kHz
OCCUPIED BW
%OCC 99.00
244.0kHz
D
R
CENTER 1.945400GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: d
CHANNEL: 588


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR .83dB
RL 41.0dBm
10dB/
240kHz
OCCUPIED BW
%OCC 99.00
240.0kHz
D
R
CENTER 1.949600GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: D CHANNEL: 609

MEASUREMENT: 3A

MEASUREMENT

OF

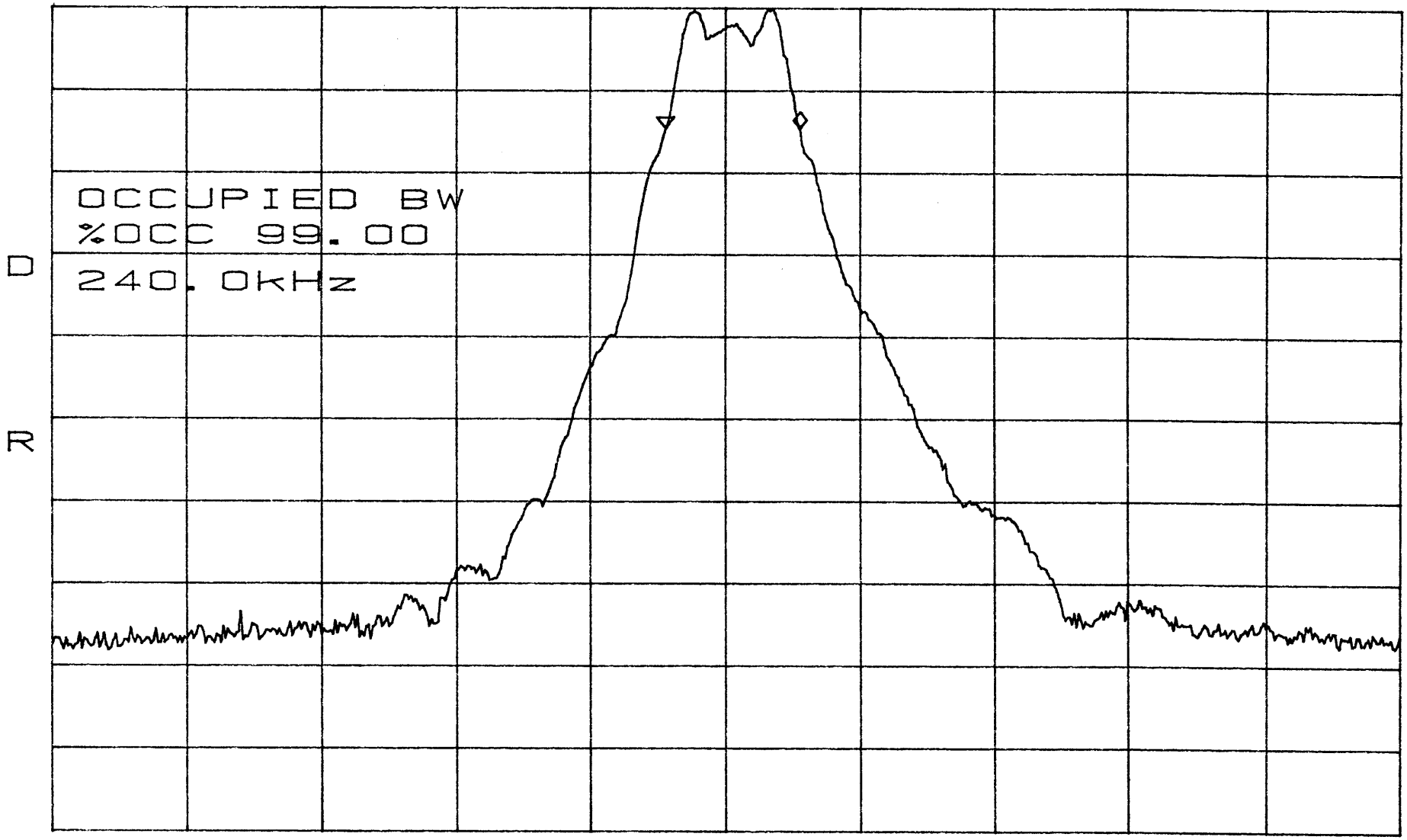
OCCUPIED BANDWIDTH AT

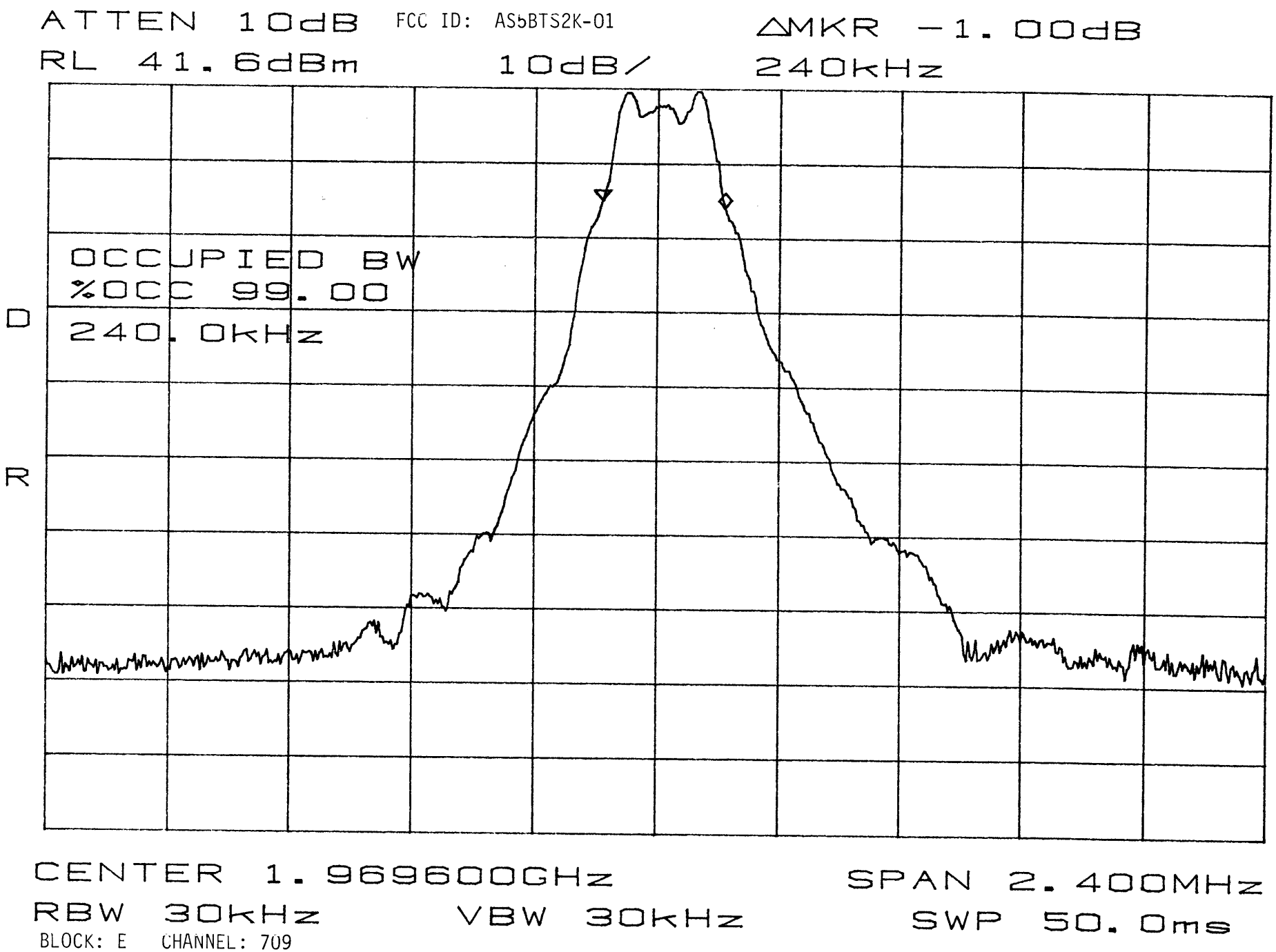
99% OF POWER

BLOCK E

(1965 – 1970 MHz)

Left Edge: 1965.4 MHz (Channel 688)
Right Edge: 1969.6 MHz (Channel 709)


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR
RL 41.6dBm
10dB/
240kHz
OCCUPIED BW
%OCC 99.00
240.0kHz
D
R
CENTER 1.965400GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: E CHANNEL: 688


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -1.00dB
RL 41.6dBm
10dB/
240kHz
OCCUPIED BW
%OCC 99.00
240.0kHz
D
R
CENTER 1.969600GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: E CHANNEL: 709

MEASUREMENT: 3A

MEASUREMENT

OF

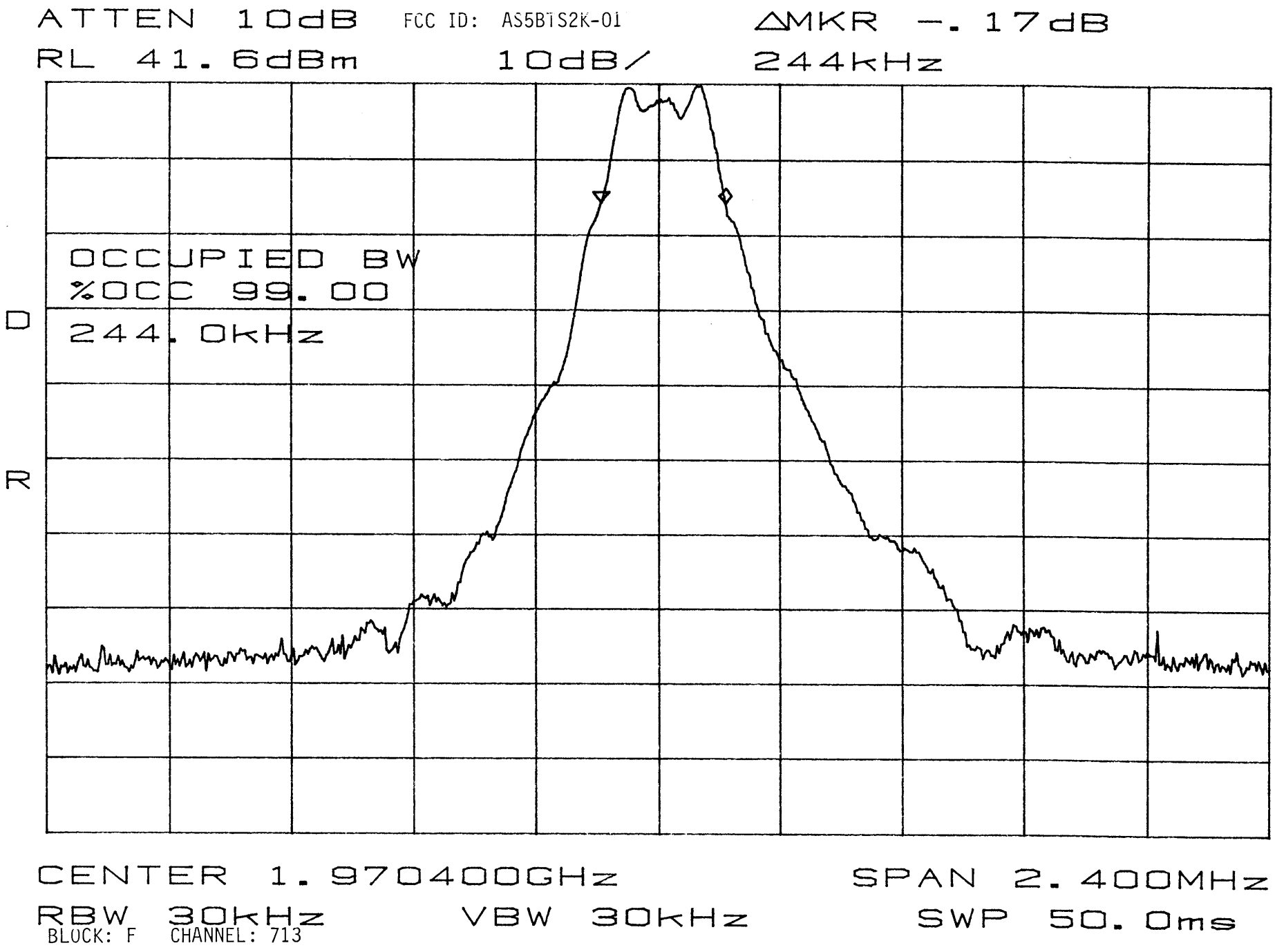
OCCUPIED BANDWIDTH AT

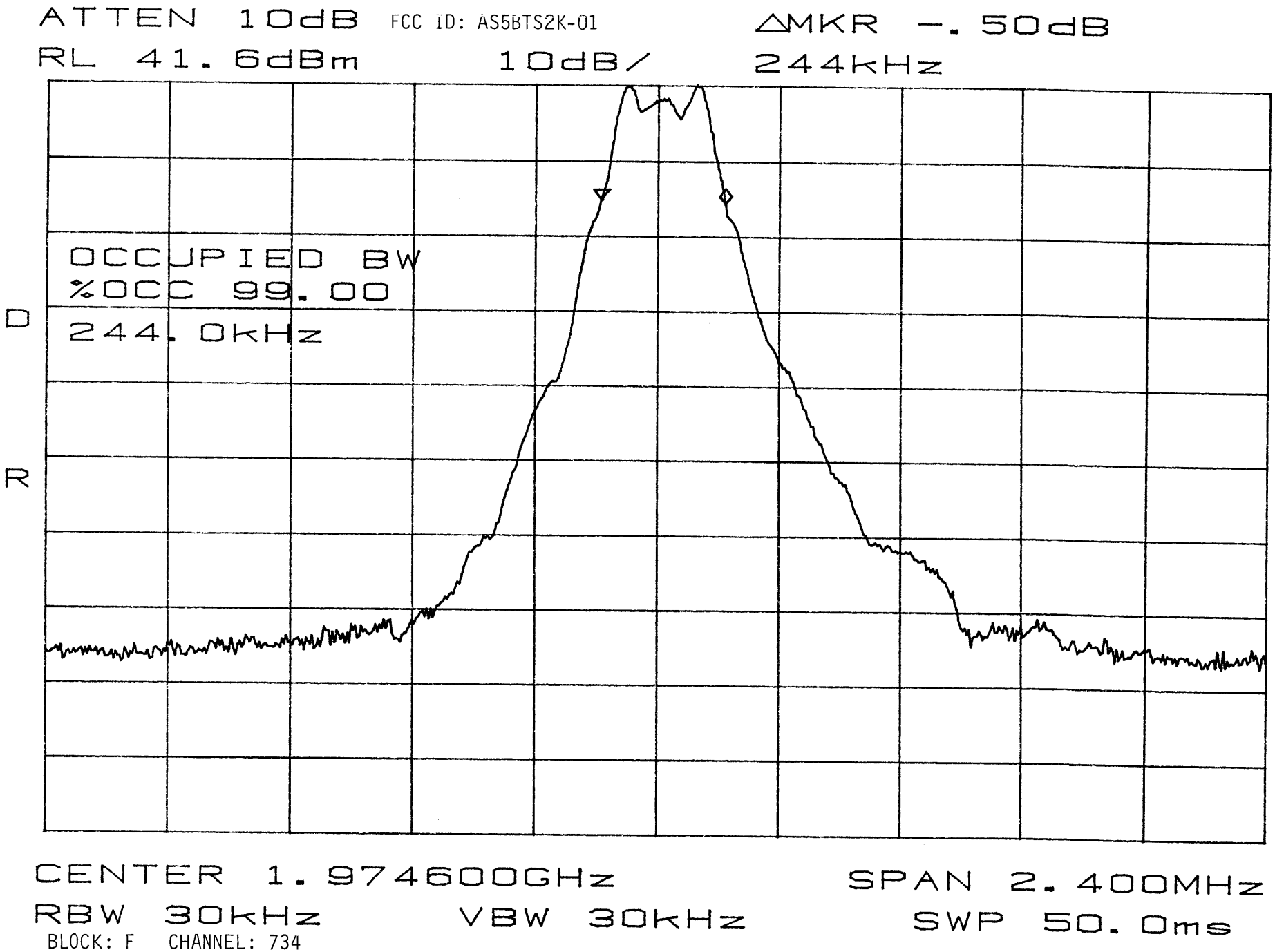
99% OF POWER

BLOCK F

(1970 – 1975 MHz)

Left Edge: 1970.4 MHz (Channel 713)
Right Edge: 1974.6 MHz (Channel 734)


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.17dB
RL 41.6dBm
10dB/
244kHz
OCCUPIED BW
%OCC 99.00
244.0kHz
D
R
CENTER 1.970400GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: F CHANNEL: 713


ATTEN 10dB
FCC ID: AS5BTS2K-01
ΔMKR -.50dB
RL 41.6dBm
10dB/
244kHz
OCCUPIED BW
%OCC 99.00
244.0kHz
D
R
CENTER 1.974600GHz
SPAN 2.400MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms
BLOCK: F CHANNEL: 734

MEASUREMENT: 3B

MEASUREMENT

OF

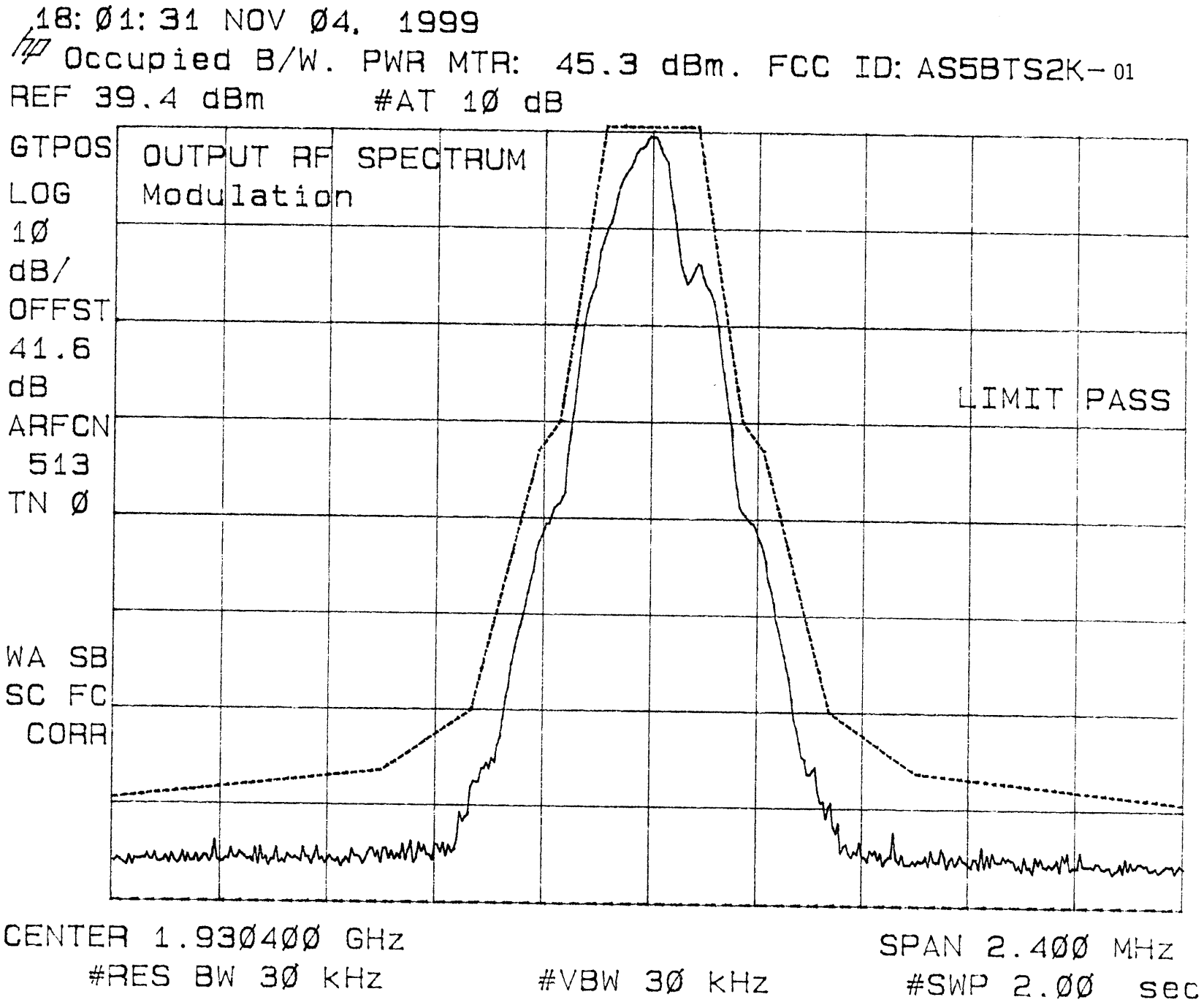
OCCUPIED BANDWIDTH

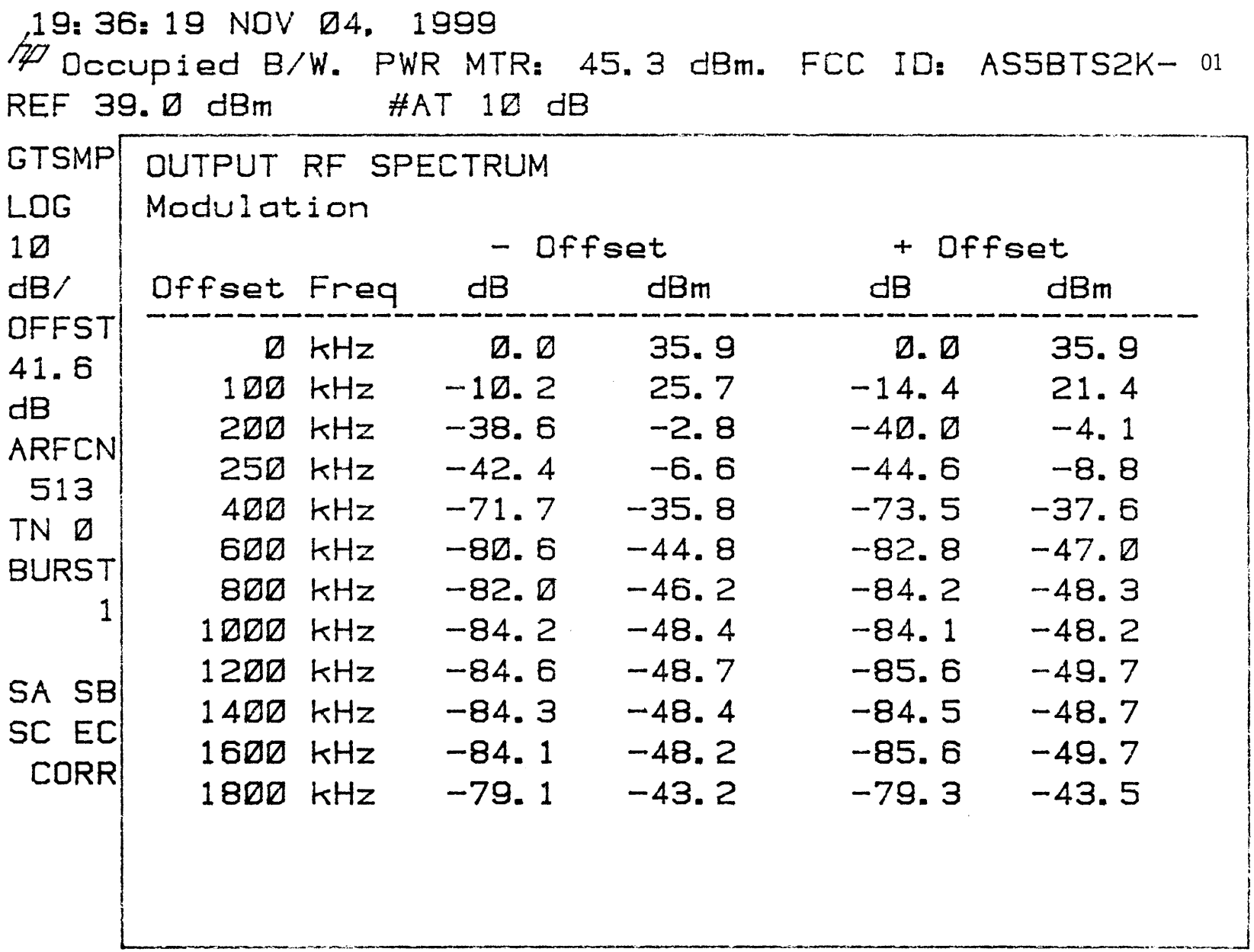
AFTER COMBINER

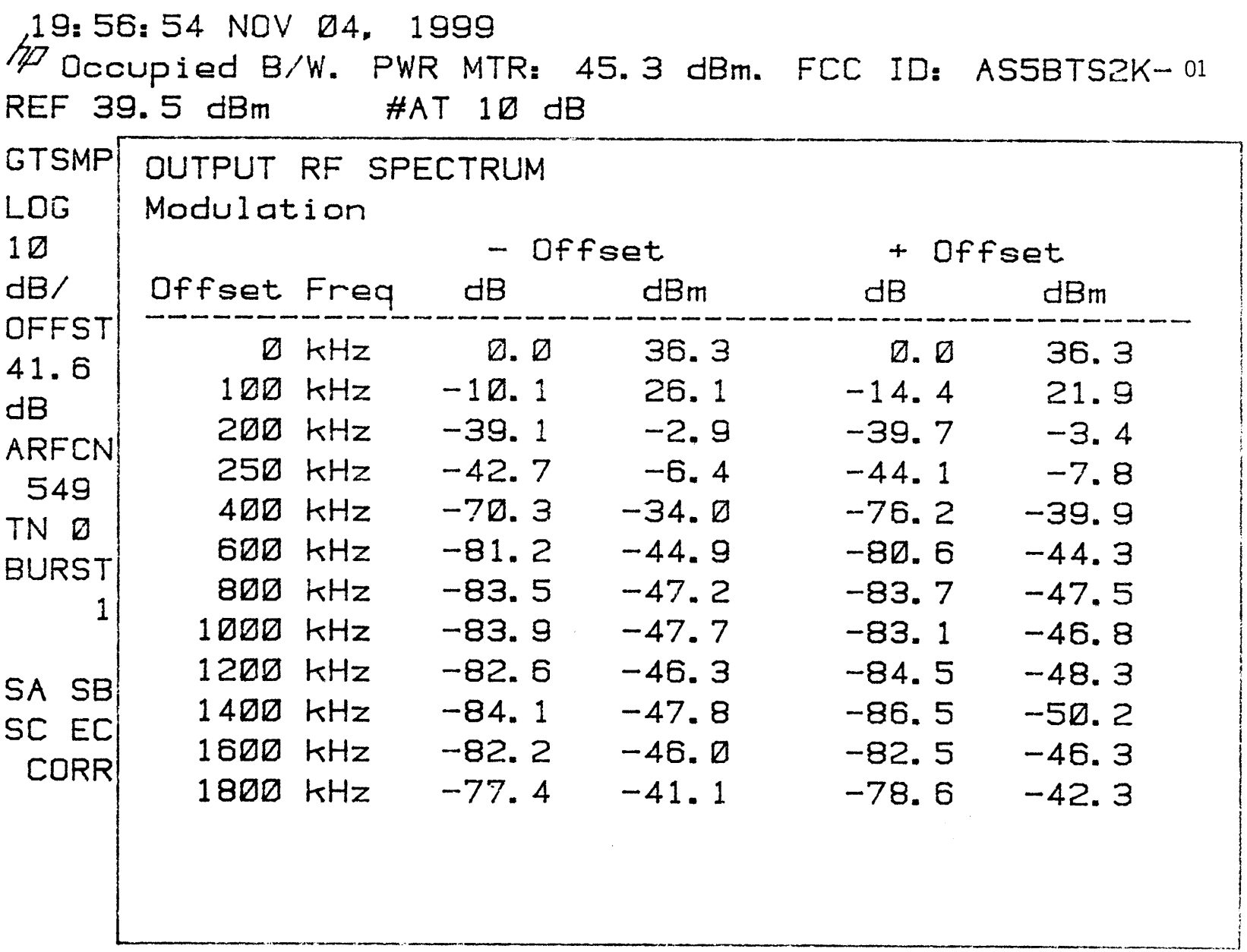
BLOCK A

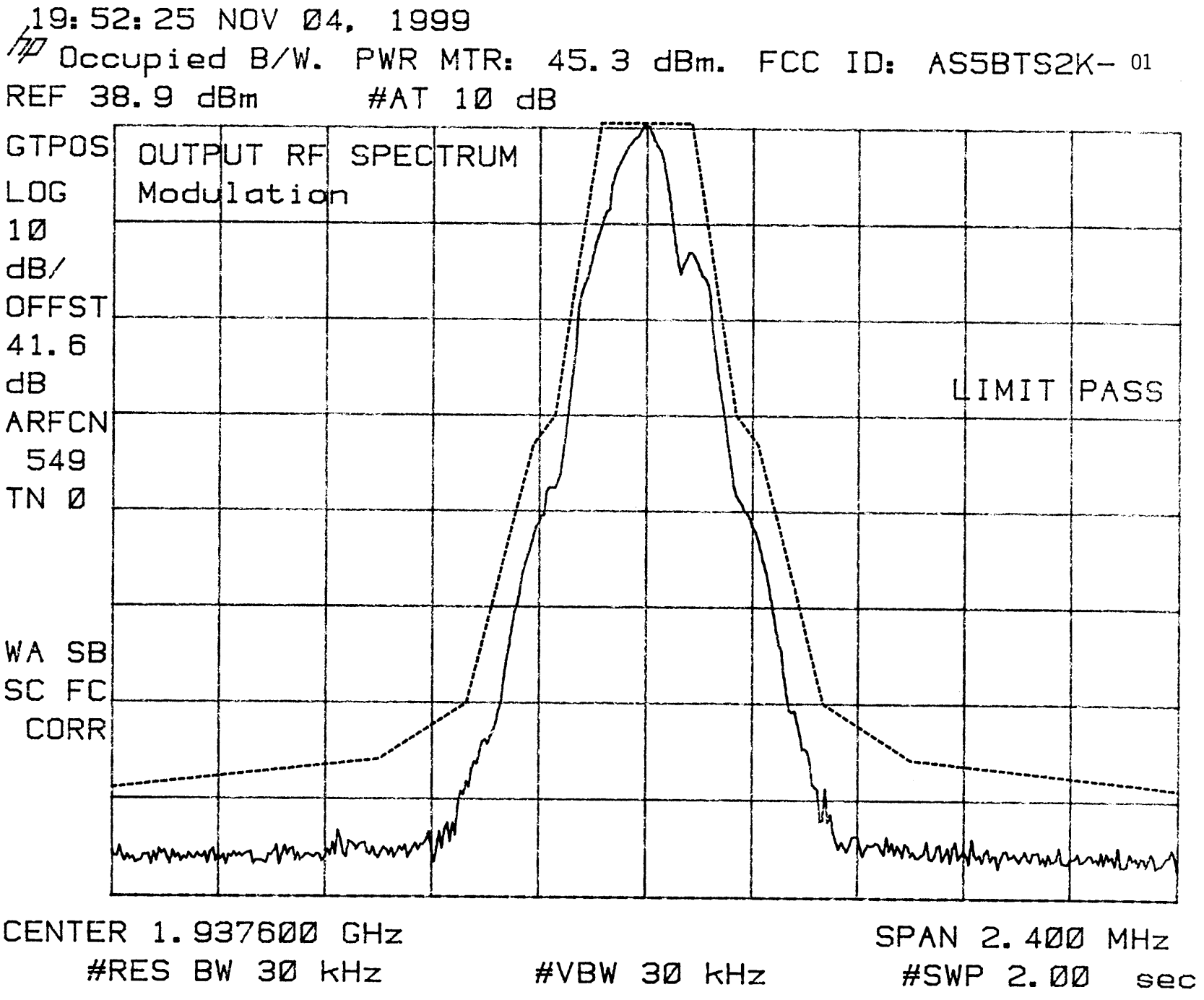
(1930 – 1945 MHz)

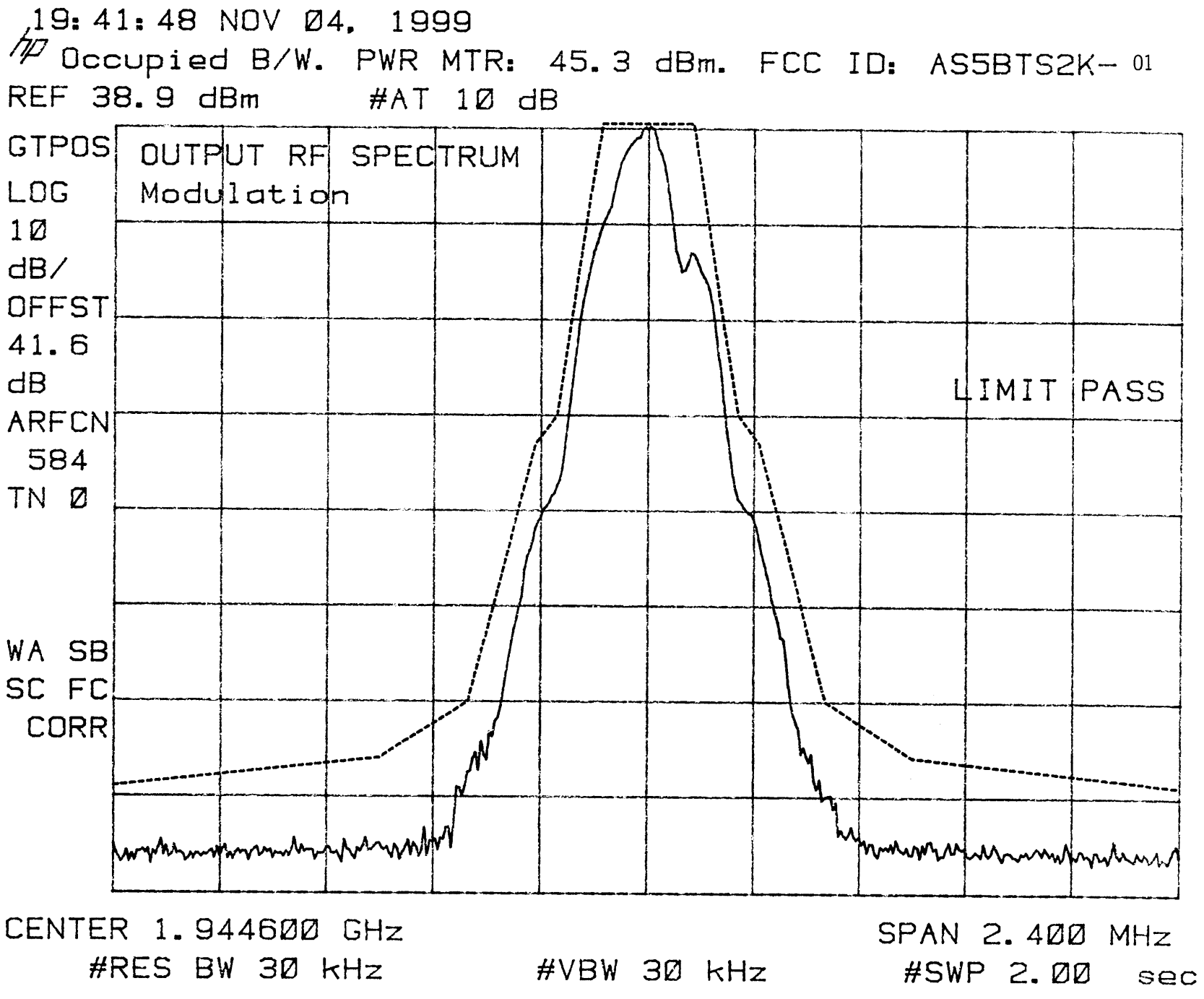
Left Edge:	**1930.4 MHz (Channel 513)**
Center:	**1937.6 MHz (Channel 549)**
Right Edge:	**1944.6 MHz (Channel 584)**

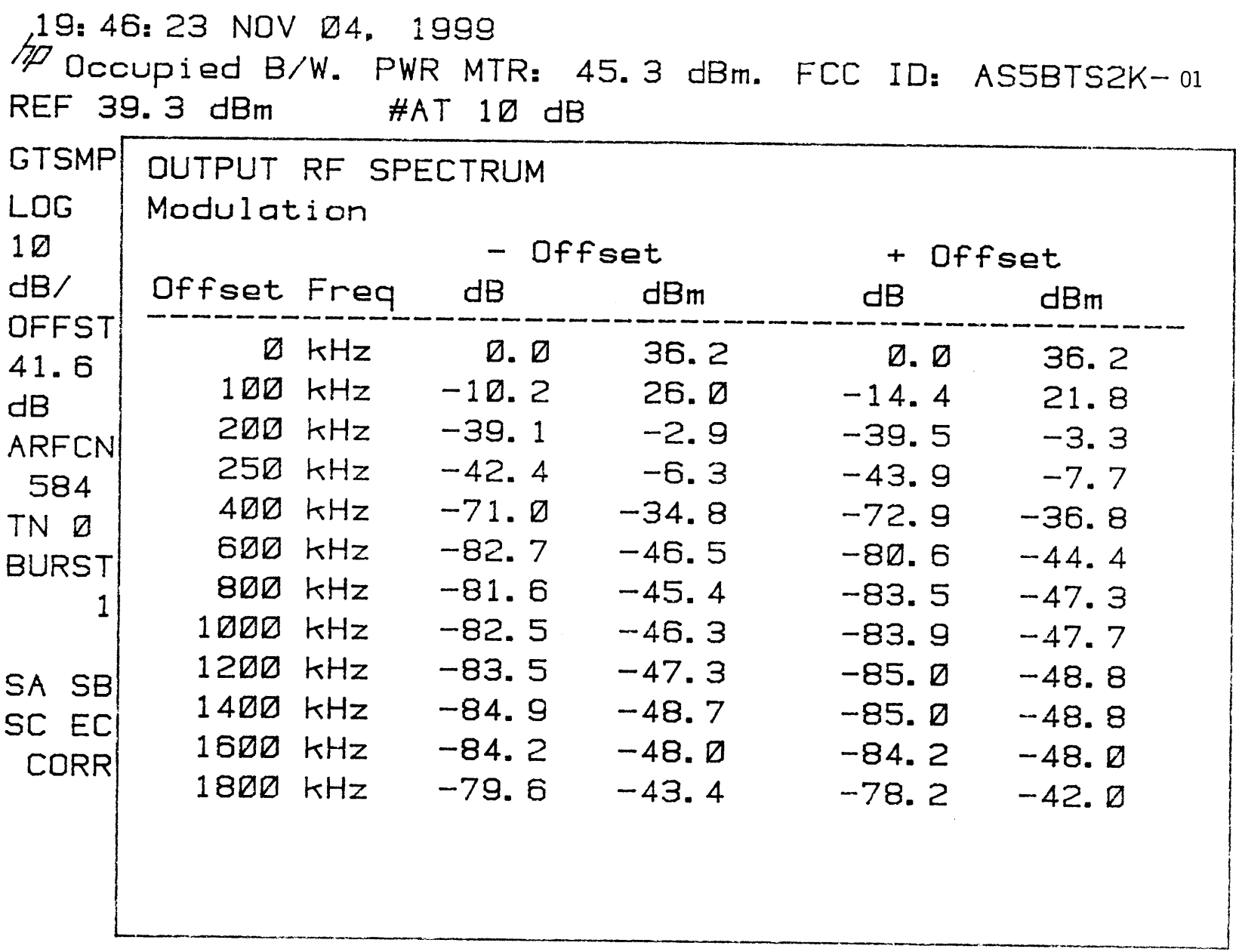

18: Ø1: 31 NOV Ø4, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.4 dBm
#AT 1Ø dB
GTPOS
LOG
1Ø
dB/
OFFST
41.6
dB
ARFCN
513
TN Ø
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.93Ø4ØØ GHz
SPAN 2.4ØØ MHz
#RES BW 3Ø kHz
#VBW 3Ø kHz
#SWP 2.ØØ sec


19:36:19 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 39.0 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
513
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 35.9 0.0 35.9
100 kHz -10.2 25.7 -14.4 21.4
200 kHz -38.6 -2.8 -40.0 -4.1
250 kHz -42.4 -6.6 -44.6 -8.8
400 kHz -71.7 -35.8 -73.5 -37.6
600 kHz -80.6 -44.8 -82.8 -47.0
800 kHz -82.0 -46.2 -84.2 -48.3
1000 kHz -84.2 -48.4 -84.1 -48.2
1200 kHz -84.6 -48.7 -85.6 -49.7
1400 kHz -84.3 -48.4 -84.5 -48.7
1600 kHz -84.1 -48.2 -85.6 -49.7
1800 kHz -79.1 -43.2 -79.3 -43.5
CENTER 1.9304000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec


19:56:54 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.5 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
549
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 36.3 0.0 36.3
100 kHz -10.1 26.1 -14.4 21.9
200 kHz -39.1 -2.9 -39.7 -3.4
250 kHz -42.7 -6.4 -44.1 -7.8
400 kHz -70.3 -34.0 -76.2 -39.9
600 kHz -81.2 -44.9 -80.6 -44.3
800 kHz -83.5 -47.2 -83.7 -47.5
1000 kHz -83.9 -47.7 -83.1 -46.8
1200 kHz -82.6 -46.3 -84.5 -48.3
1400 kHz -84.1 -47.8 -86.5 -50.2
1600 kHz -82.2 -46.0 -82.5 -46.3
1800 kHz -77.4 -41.1 -78.6 -42.3
CENTER 1.9376000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec


19:52:25 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 38.9 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
549
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.937600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec


19:41:48 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 38.9 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
584
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.944600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec



Offset Freq	− Offset dB	− Offset dBm	+ Offset dB	+ Offset dBm
Ø kHz	Ø.Ø	36.2	Ø.Ø	36.2
1ØØ kHz	−1Ø.2	26.Ø	−14.4	21.8
2ØØ kHz	−39.1	−2.9	−39.5	−3.3
25Ø kHz	−42.4	−6.3	−43.9	−7.7
4ØØ kHz	−71.Ø	−34.8	−72.9	−36.8
6ØØ kHz	−82.7	−46.5	−8Ø.6	−44.4
8ØØ kHz	−81.6	−45.4	−83.5	−47.3
1ØØØ kHz	−82.5	−46.3	−83.9	−47.7
12ØØ kHz	−83.5	−47.3	−85.Ø	−48.8
14ØØ kHz	−84.9	−48.7	−85.Ø	−48.8
16ØØ kHz	−84.2	−48.Ø	−84.2	−48.Ø
18ØØ kHz	−79.6	−43.4	−78.2	−42.Ø

MEASUREMENT: 3B

MEASUREMENT

OF

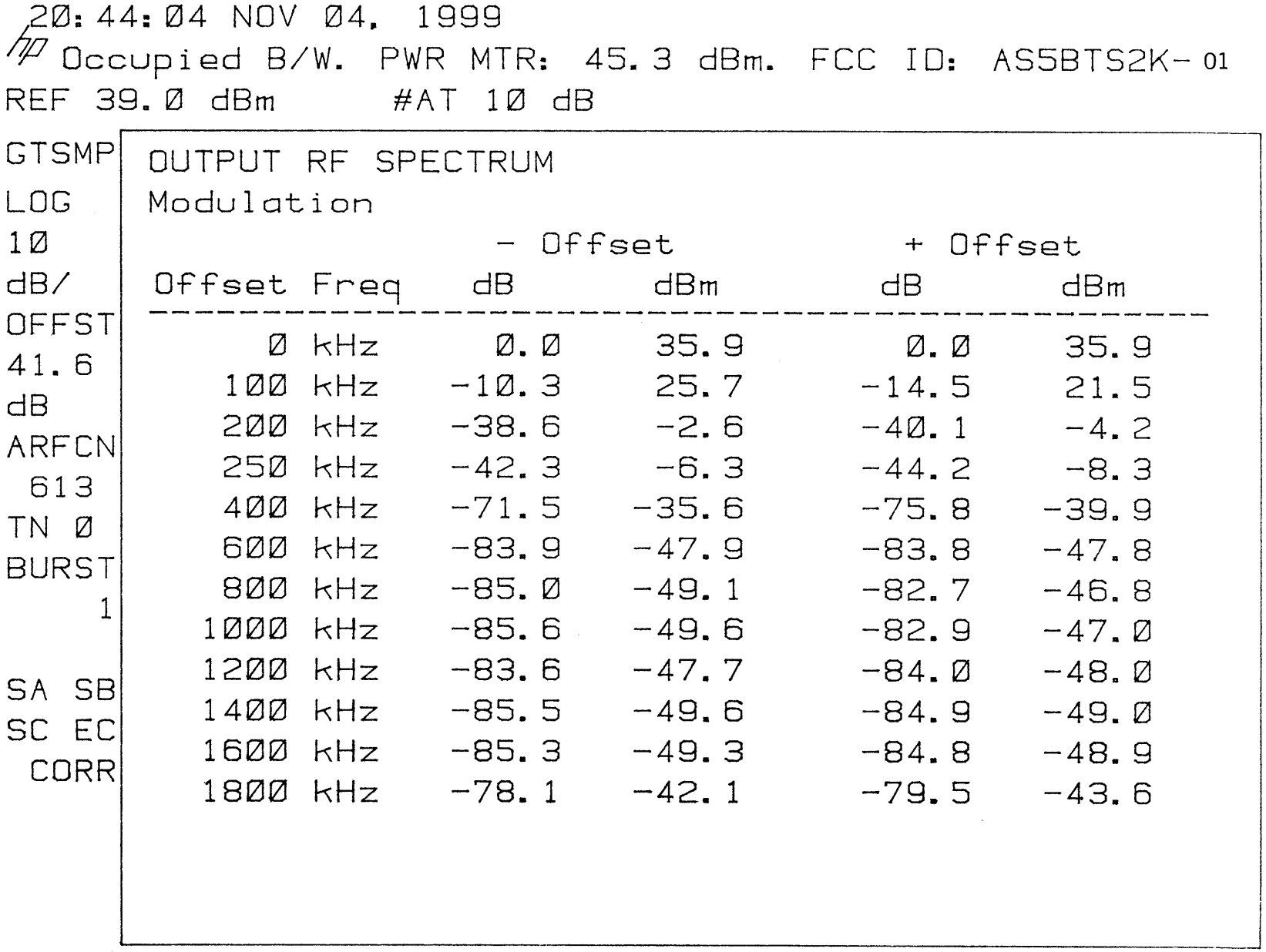
OCCUPIED BANDWIDTH

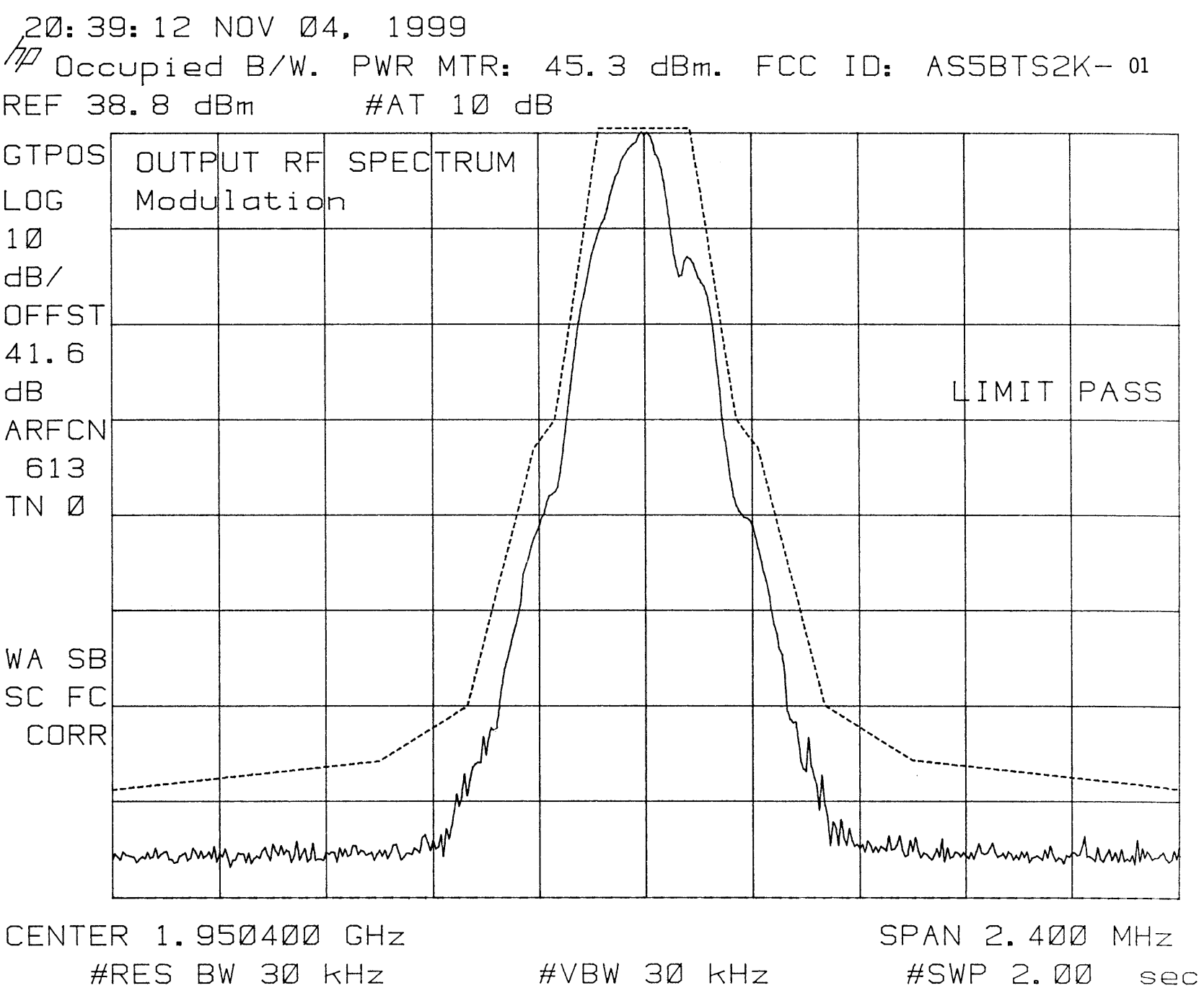
AFTER COMBINER

BLOCK B

(1950 – 1965 MHz)

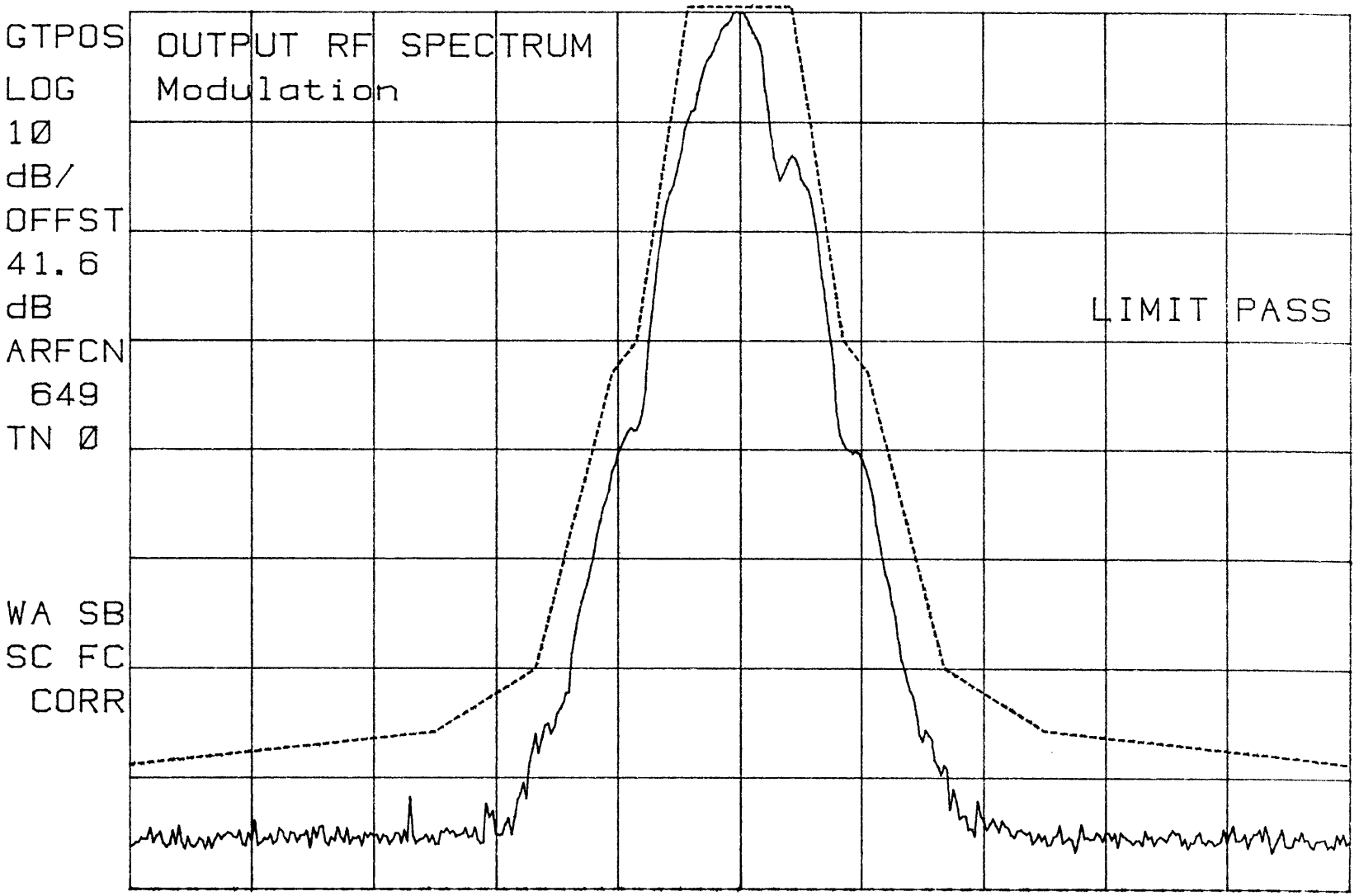
Left Edge:	**1950.4 MHz (Channel 613)**
Center:	**1957.6 MHz (Channel 649)**
Right Edge:	**1964.6 MHz (Channel 684)**


20:44:04 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.0 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
613
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 35.9 0.0 35.9
100 kHz -10.3 25.7 -14.5 21.5
200 kHz -38.6 -2.6 -40.1 -4.2
250 kHz -42.3 -6.3 -44.2 -8.3
400 kHz -71.5 -35.6 -75.8 -39.9
600 kHz -83.9 -47.9 -83.8 -47.8
800 kHz -85.0 -49.1 -82.7 -46.8
1000 kHz -85.6 -49.6 -82.9 -47.0
1200 kHz -83.6 -47.7 -84.0 -48.0
1400 kHz -85.5 -49.6 -84.9 -49.0
1600 kHz -85.3 -49.3 -84.8 -48.9
1800 kHz -78.1 -42.1 -79.5 -43.6
CENTER 1.9504000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec


20:39:12 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 38.8 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
613
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.950400 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec

21:01:13 NOV 04, 1999

FCC ID: AS5BTS2K-01



21:05:21 NOV 04, 1999

FCC ID: AS5BTS2K-01

REF 39.2 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
649
TN 0
BURST
1

SA SB
SC EC
CORR

OUTPUT RF SPECTRUM
Modulation

	- Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.0	0.0	36.0
100 kHz	-10.2	25.8	-14.5	21.5
200 kHz	-38.4	-2.4	-39.8	-3.8
250 kHz	-42.9	-6.9	-44.6	-8.6
400 kHz	-70.0	-34.0	-74.5	-38.5
600 kHz	-85.3	-49.3	-79.9	-43.9
800 kHz	-81.4	-45.4	-84.3	-48.3
1000 kHz	-81.6	-45.6	-83.3	-47.3
1200 kHz	-81.2	-45.2	-83.3	-47.3
1400 kHz	-82.0	-46.0	-83.6	-47.6
1600 kHz	-82.8	-46.8	-81.4	-45.4
1800 kHz	-78.7	-42.7	-79.2	-43.2

CENTER 1.9576000 GHz SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec

20:55:54 NOV 04, 1999

FCC ID: AS5BTS2K-01

REF 39.5 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
684
TN 0
BURST
1

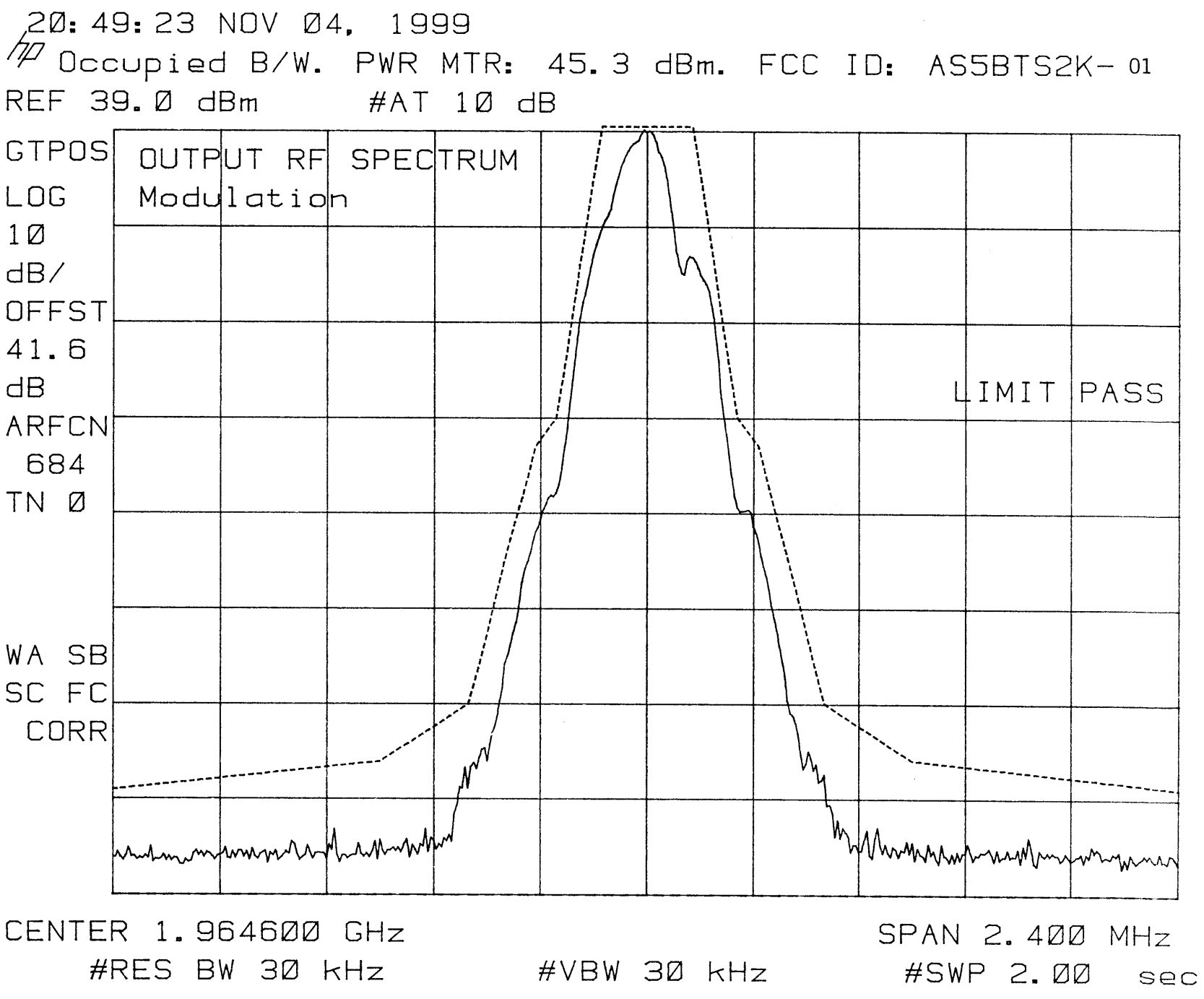
SA SB
SC EC
CORR

OUTPUT RF SPECTRUM
Modulation

	- Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.3	0.0	36.3
100 kHz	-10.3	26.0	-14.4	21.9
200 kHz	-38.5	-2.2	-39.5	-3.2
250 kHz	-42.4	-6.1	-44.0	-7.7
400 kHz	-71.1	-34.9	-75.1	-38.8
600 kHz	-80.6	-44.3	-81.8	-45.5
800 kHz	-85.3	-49.0	-84.9	-48.6
1000 kHz	-84.1	-47.8	-81.0	-44.7
1200 kHz	-85.8	-49.5	-84.5	-48.2
1400 kHz	-84.4	-48.1	-85.0	-48.7
1600 kHz	-84.4	-48.1	-84.7	-48.4
1800 kHz	-81.0	-44.7	-78.7	-42.4

CENTER 1.9646000 GHz SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec


20: 49: 23 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.0 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
684
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.964600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec

MEASUREMENT: 3B

MEASUREMENT

OF

OCCUPIED BANDWIDTH

AFTER COMBINER

BLOCK C

(1975 – 1990 MHz)

Left Edge:	**1975.4 MHz (Channel 738)**
Center:	**1984.6 MHz (Channel 784)**
Right Edge:	**1989.6 MHz (Channel 809)**

15:20:29 NOV 05, 1999

Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01

REF 39.4 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
738
TN 0
BURST
1

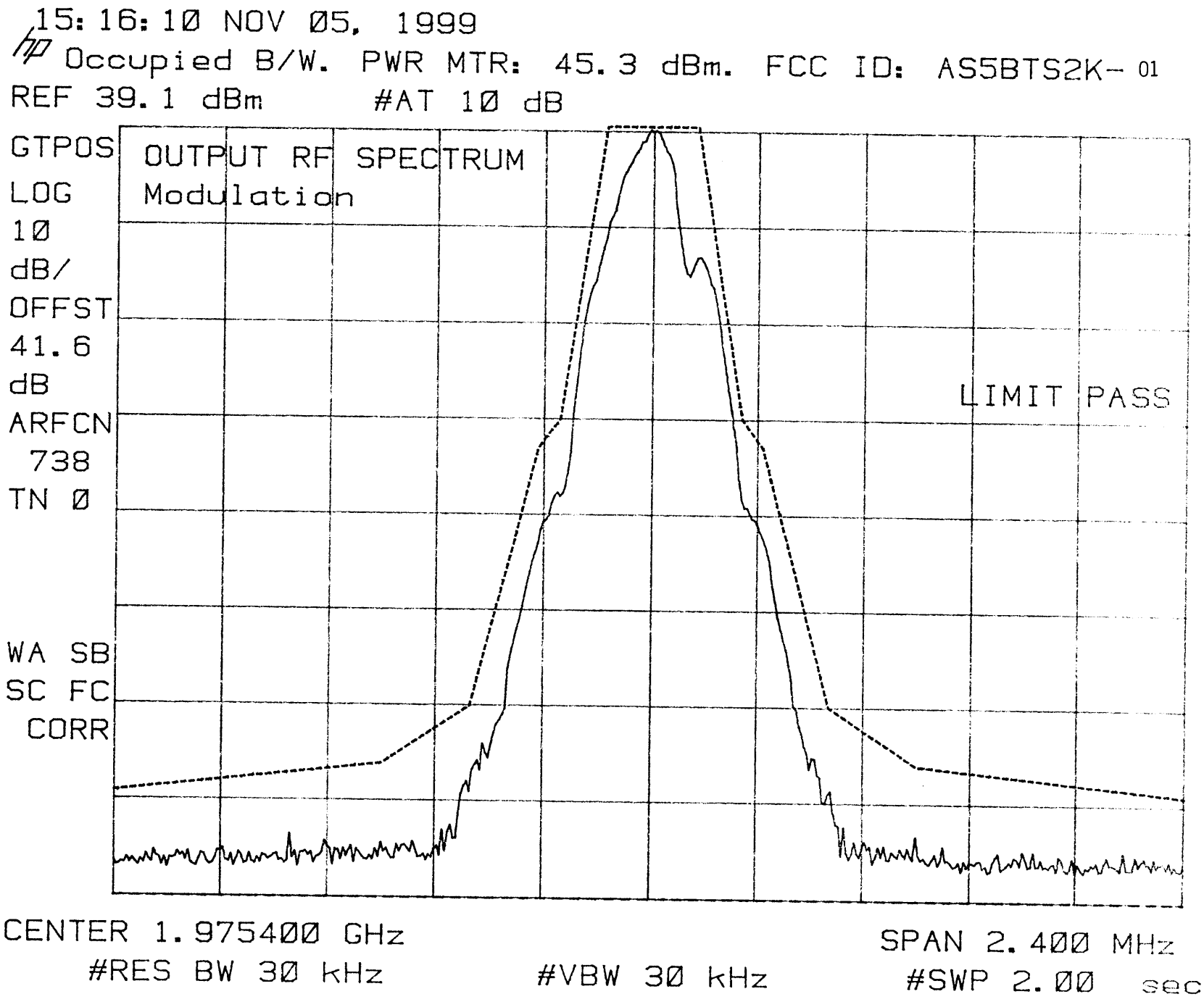
SA SB
SC EC
CORR

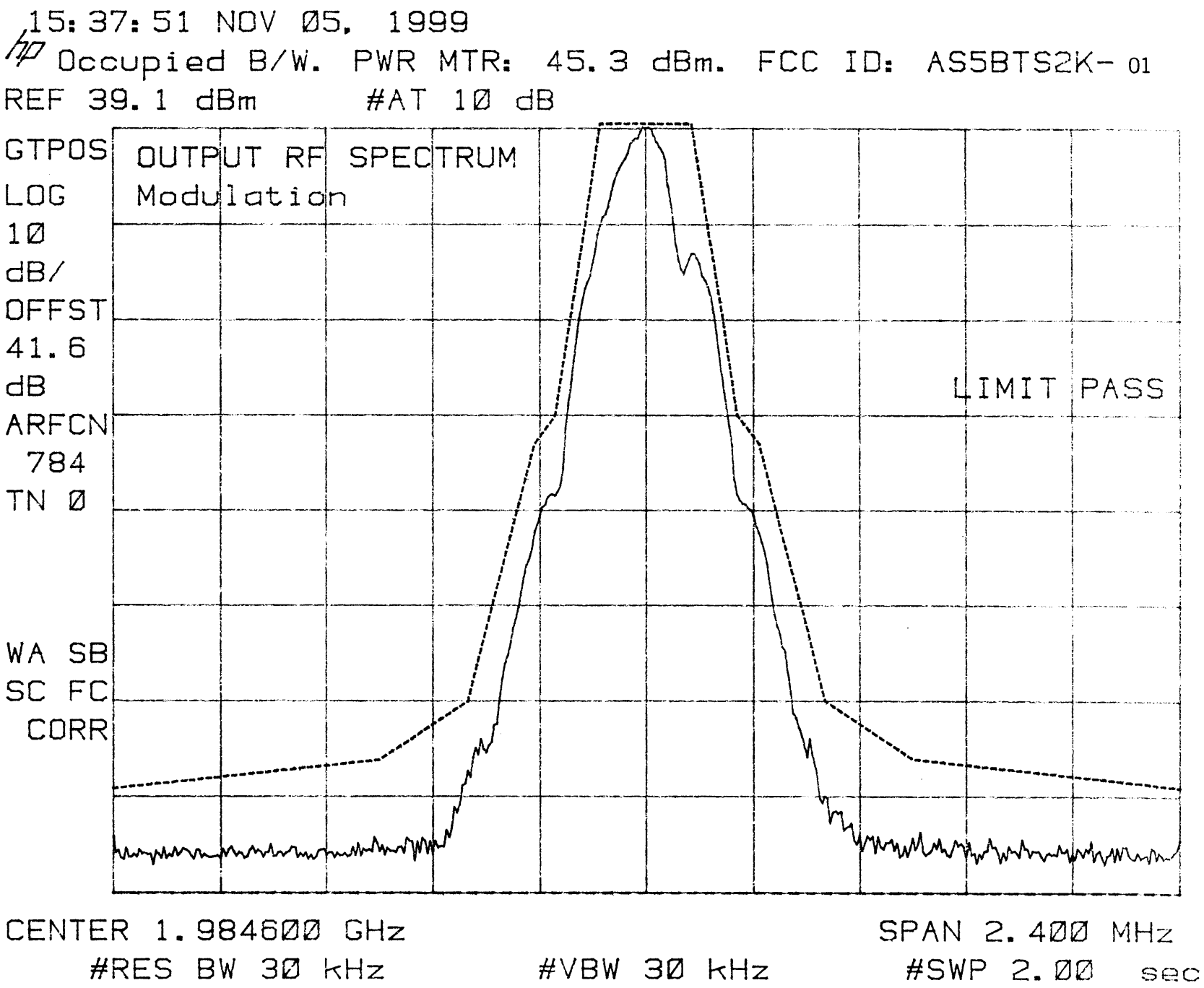
OUTPUT RF SPECTRUM
Modulation

	- Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.5	0.0	36.5
100 kHz	-10.5	26.0	-14.6	21.9
200 kHz	-38.7	-2.2	-39.9	-3.4
250 kHz	-43.9	-7.4	-43.9	-7.5
400 kHz	-71.3	-34.8	-72.9	-36.4
600 kHz	-83.3	-46.8	-81.3	-44.9
800 kHz	-84.4	-47.9	-82.6	-46.1
1000 kHz	-81.9	-45.4	-83.4	-46.9
1200 kHz	-81.2	-44.7	-85.6	-49.1
1400 kHz	-86.1	-49.6	-82.8	-46.3
1600 kHz	-85.1	-48.6	-84.8	-48.3
1800 kHz	-79.7	-43.2	-77.2	-40.8

CENTER 1.9754000 GHz SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec


15:16:10 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.1 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
738
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.975400 GHz
#RES BW 30 kHz
#VBW 30 kHz
SPAN 2.400 MHz
#SWP 2.00 sec


15:37:51 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 39.1 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
784
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.984600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec

15:42:00 NOV 05, 1999

Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01

REF 39.4 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
784
TN 0
BURST
1

SA SB
SC EC
CORR

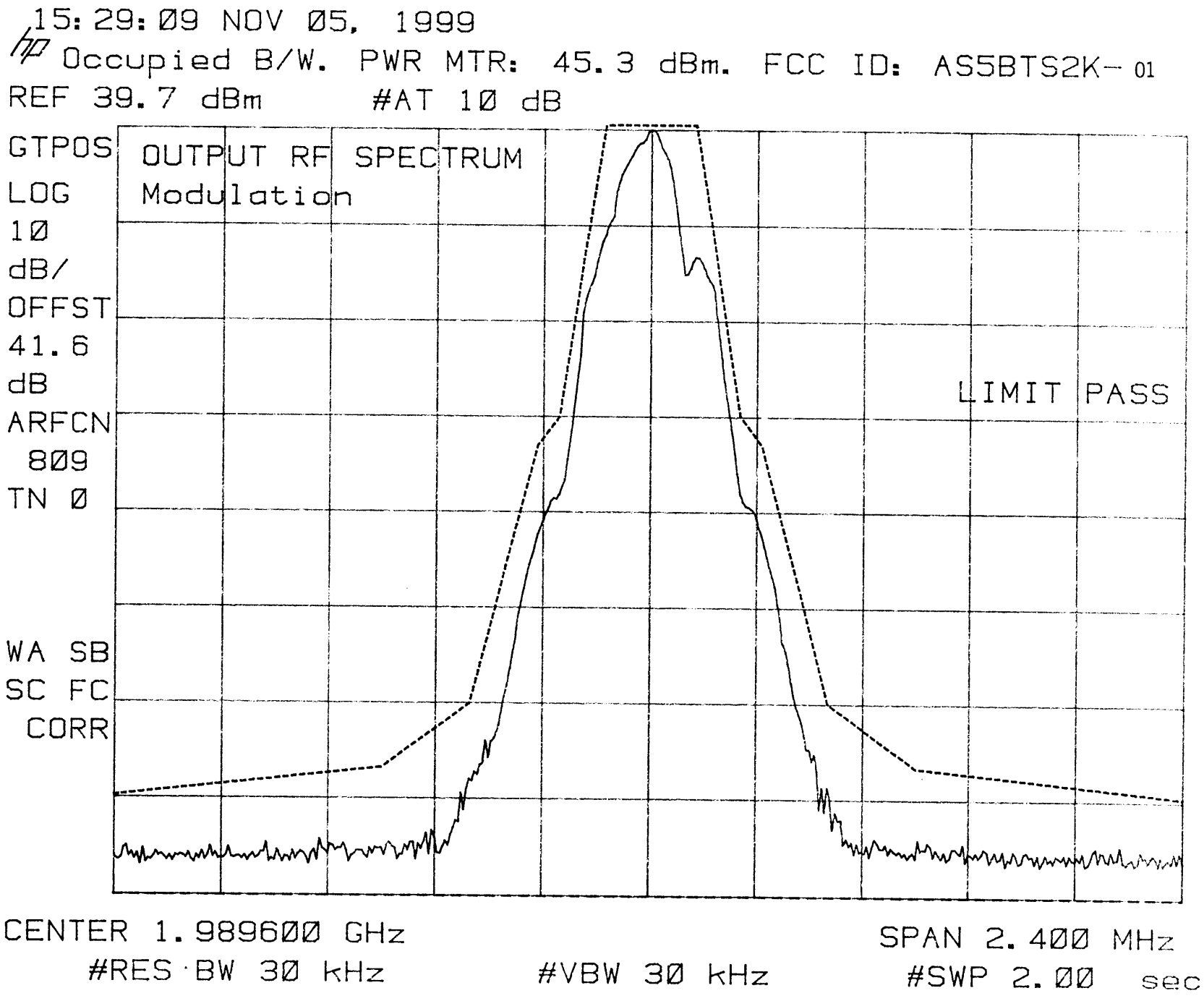
OUTPUT RF SPECTRUM
Modulation

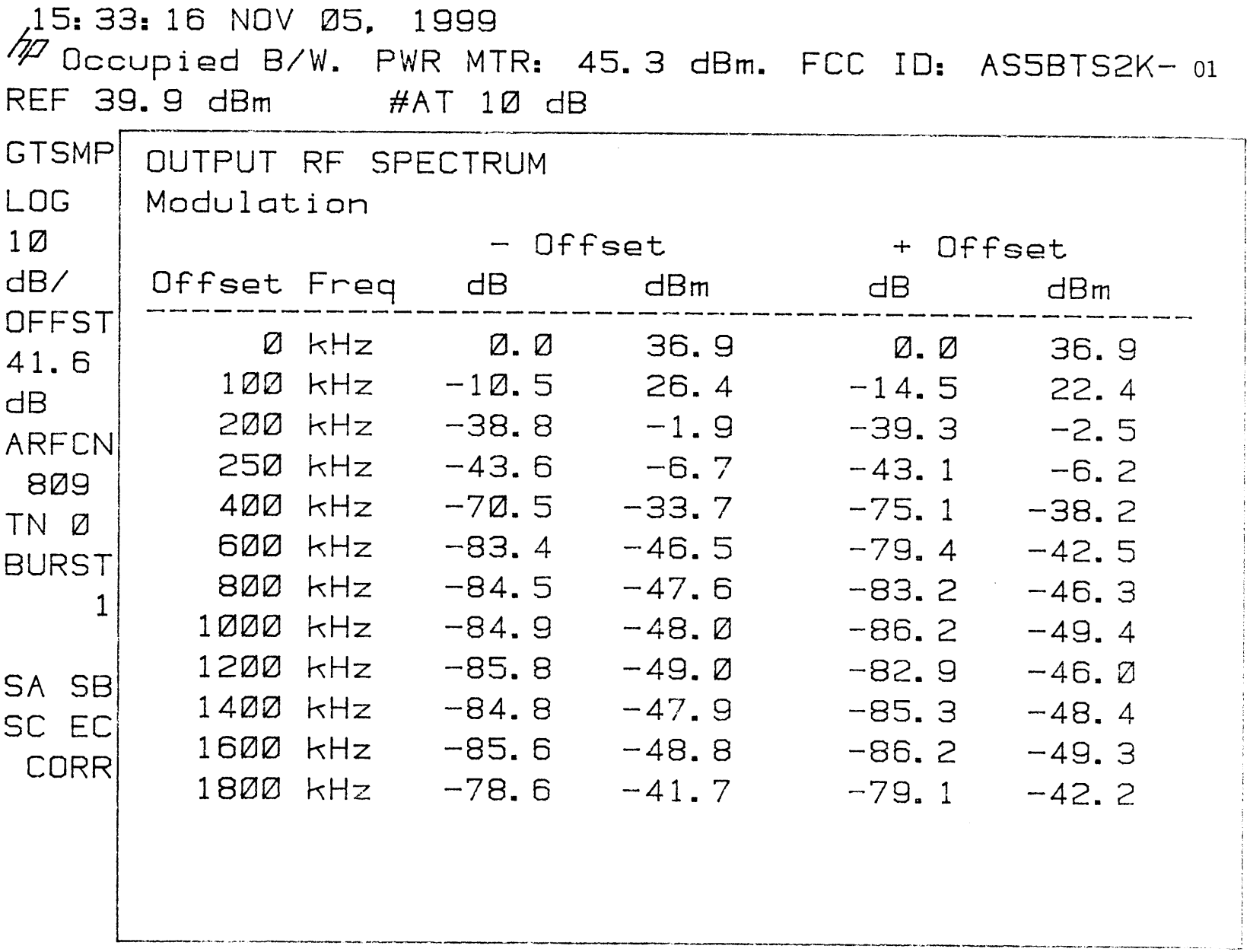
Offset Freq	- Offset dB	- Offset dBm	+ Offset dB	+ Offset dBm
0 kHz	0.0	36.5	0.0	36.5
100 kHz	-10.5	26.0	-14.7	21.8
200 kHz	-38.6	-2.1	-39.3	-2.8
250 kHz	-43.5	-7.0	-43.9	-7.4
400 kHz	-70.3	-33.8	-72.6	-36.1
600 kHz	-81.3	-44.8	-84.4	-47.9
800 kHz	-81.7	-45.2	-81.2	-44.7
1000 kHz	-81.8	-45.3	-85.0	-48.5
1200 kHz	-83.5	-47.0	-83.9	-47.4
1400 kHz	-83.3	-46.8	-85.3	-48.8
1600 kHz	-84.2	-47.7	-88.7	-52.2
1800 kHz	-79.2	-42.6	-78.0	-41.5

CENTER 1.9846000 GHz

SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec


15:29:09 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.7 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
809
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.989600 GHz
#RES BW 30 kHz
#VBW 30 kHz
SPAN 2.400 MHz
#SWP 2.00 sec


15:33:16 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 39.9 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
809
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 36.9 0.0 36.9
100 kHz -10.5 26.4 -14.5 22.4
200 kHz -38.8 -1.9 -39.3 -2.5
250 kHz -43.6 -6.7 -43.1 -6.2
400 kHz -70.5 -33.7 -75.1 -38.2
600 kHz -83.4 -46.5 -79.4 -42.5
800 kHz -84.5 -47.6 -83.2 -46.3
1000 kHz -84.9 -48.0 -86.2 -49.4
1200 kHz -85.8 -49.0 -82.9 -46.0
1400 kHz -84.8 -47.9 -85.3 -48.4
1600 kHz -85.6 -48.8 -86.2 -49.3
1800 kHz -78.6 -41.7 -79.1 -42.2
CENTER 1.9896000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec

MEASUREMENT: 3B

MEASUREMENT

OF

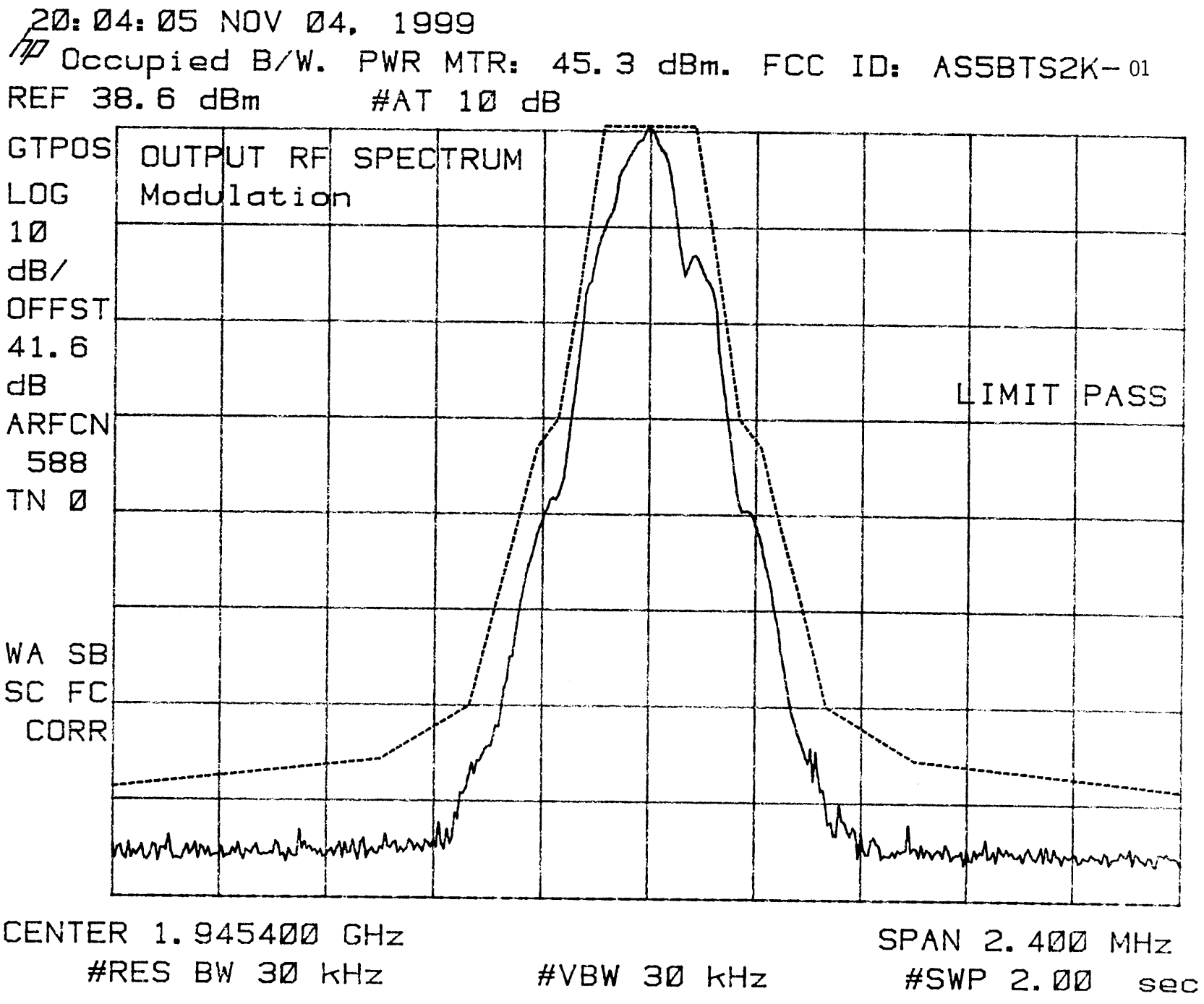
OCCUPIED BANDWIDTH

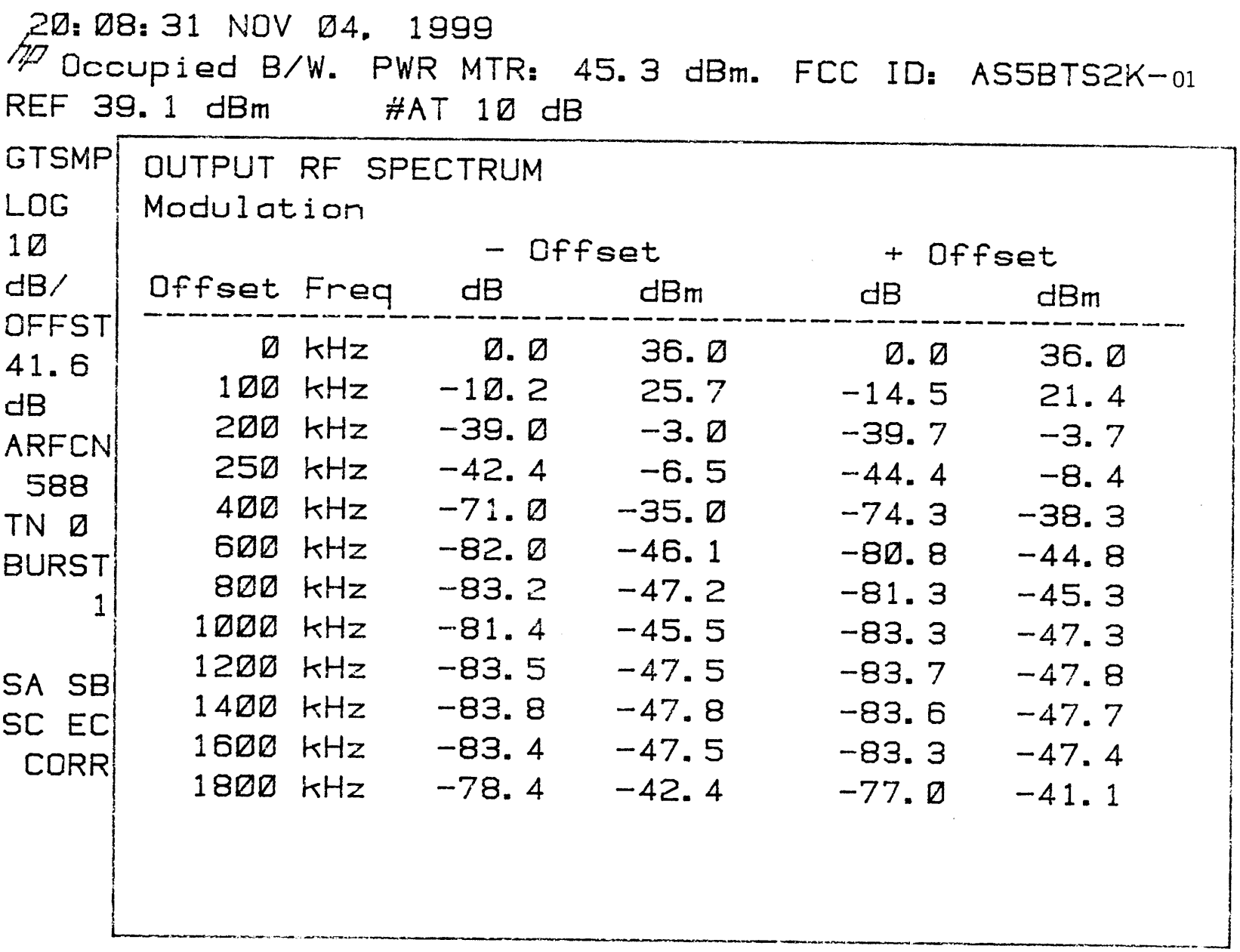
AFTER COMBINER

BLOCK D

(1945 – 1950 MHz)

Left Edge:	**1945.4 MHz (Channel 588)**
Center:	**1947.6 MHz (Channel 599)**
Right Edge:	**1949.6 MHz (Channel 609)**


20:04:05 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 38.6 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
588
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.945400 GHz
#RES BW 30 kHz
#VBW 30 kHz
SPAN 2.400 MHz
#SWP 2.00 sec


20:08:31 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.1 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
588
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 36.0 0.0 36.0
100 kHz -10.2 25.7 -14.5 21.4
200 kHz -39.0 -3.0 -39.7 -3.7
250 kHz -42.4 -6.5 -44.4 -8.4
400 kHz -71.0 -35.0 -74.3 -38.3
600 kHz -82.0 -46.1 -80.8 -44.8
800 kHz -83.2 -47.2 -81.3 -45.3
1000 kHz -81.4 -45.5 -83.3 -47.3
1200 kHz -83.5 -47.5 -83.7 -47.8
1400 kHz -83.8 -47.8 -83.6 -47.7
1600 kHz -83.4 -47.5 -83.3 -47.4
1800 kHz -78.4 -42.4 -77.0 -41.1
CENTER 1.9454000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec

20:30:46 NOV 04, 1999

Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01

REF 39.3 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
599
TN 0
BURST
1

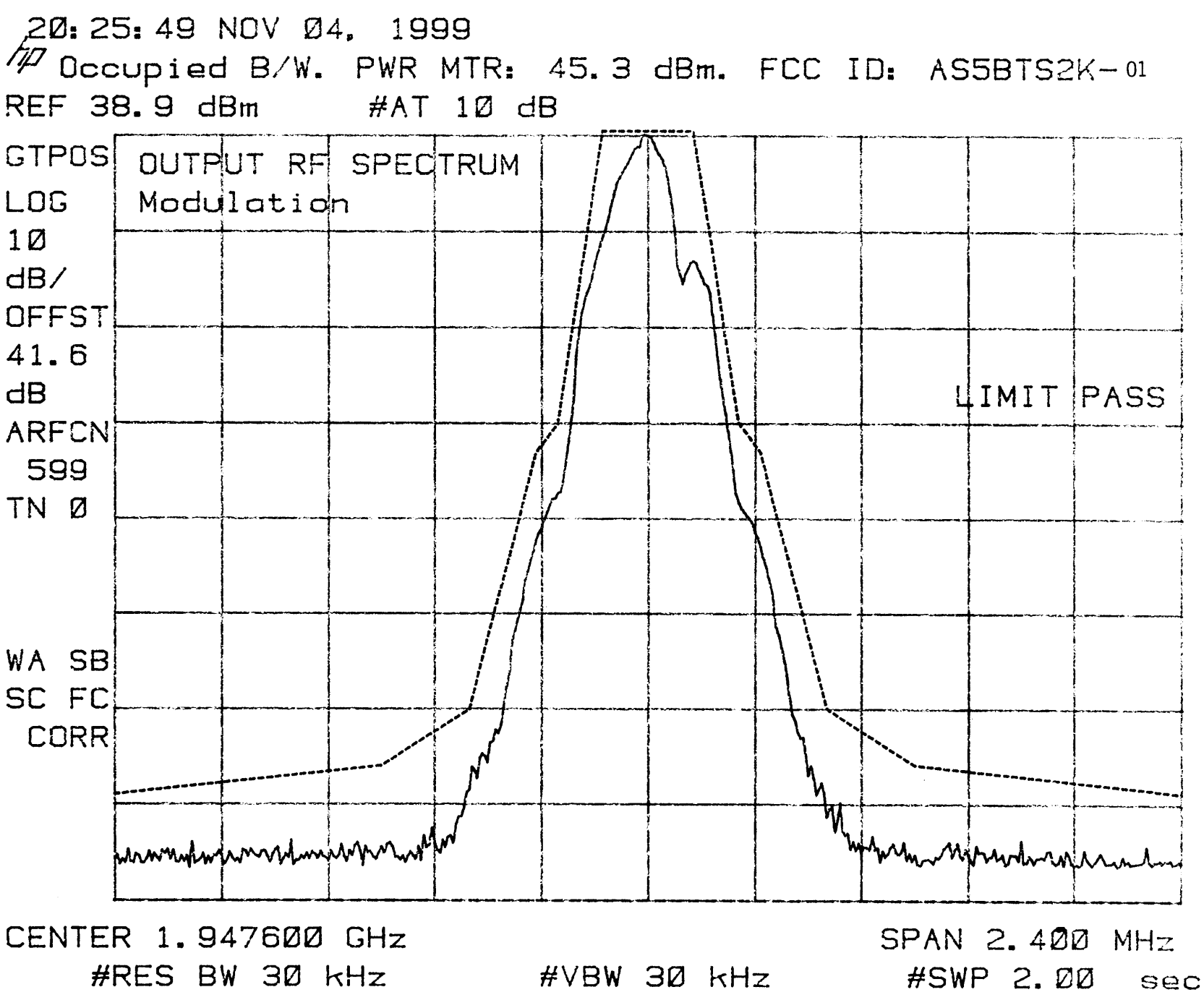
SA SB
SC EC
CORR

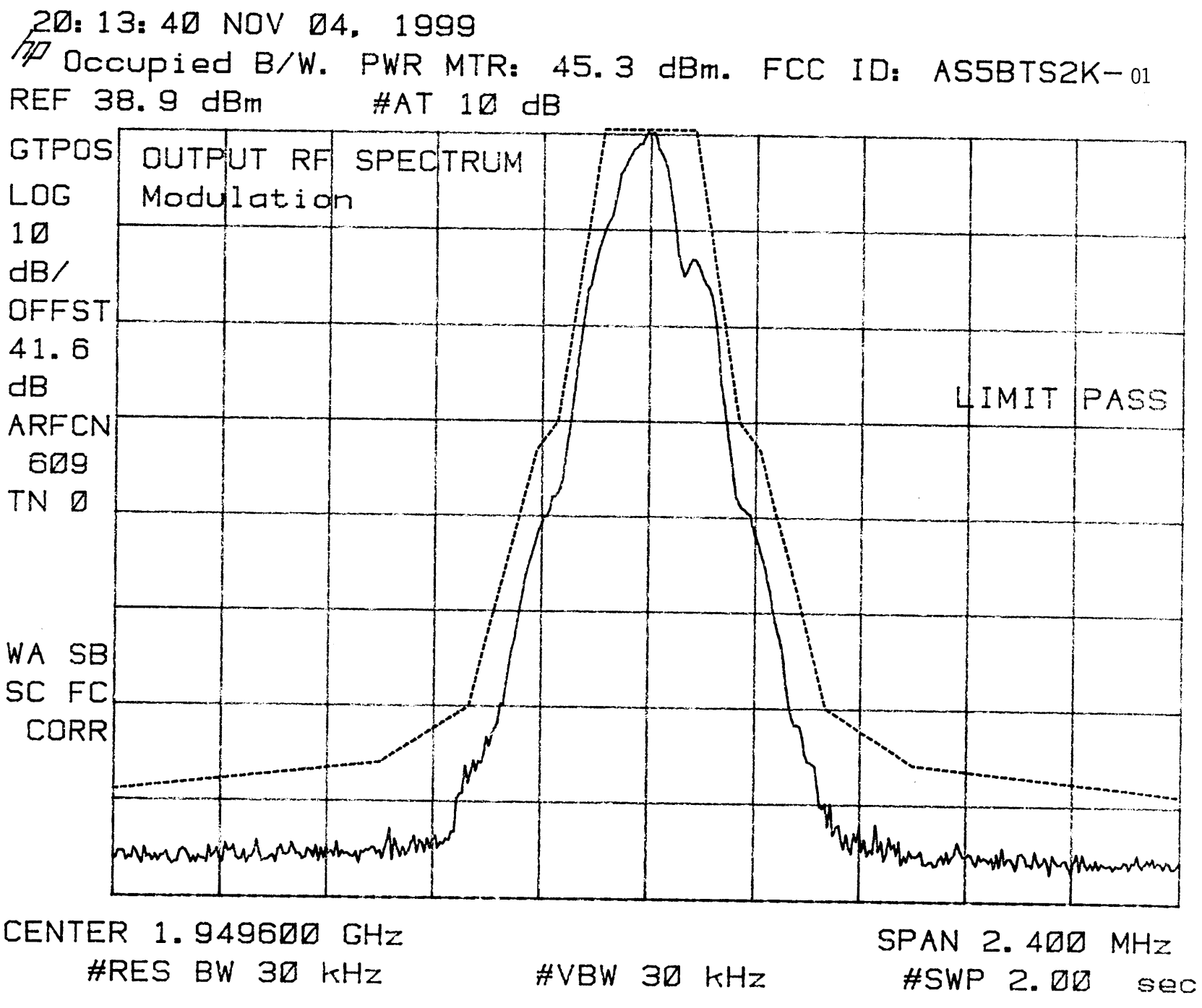
OUTPUT RF SPECTRUM
Modulation

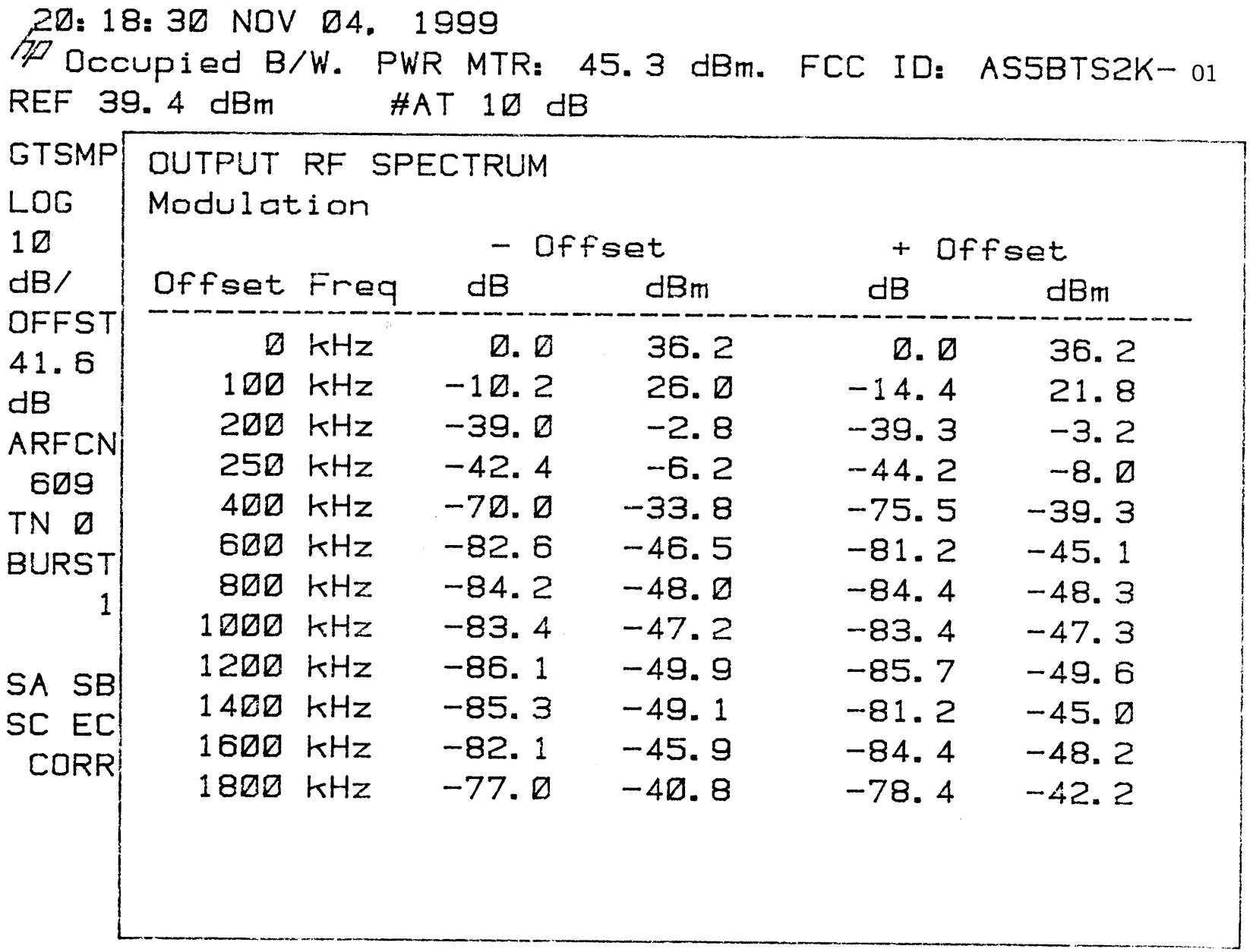
	- Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.2	0.0	36.2
100 kHz	-10.2	26.0	-14.4	21.8
200 kHz	-38.3	-2.1	-39.9	-3.8
250 kHz	-42.6	-6.4	-43.9	-7.8
400 kHz	-71.5	-35.4	-75.8	-39.6
600 kHz	-82.0	-45.8	-79.9	-43.7
800 kHz	-82.6	-46.5	-82.8	-46.6
1000 kHz	-83.6	-47.4	-86.6	-50.4
1200 kHz	-82.7	-46.5	-86.2	-50.0
1400 kHz	-81.7	-45.5	-85.0	-48.8
1600 kHz	-84.9	-48.7	-85.6	-49.4
1800 kHz	-39.8	-3.6	-78.0	-41.8

CENTER 1.9476000 GHz SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec


20:25:49 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 38.9 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
599
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.947600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec


20: 13: 40 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 38.9 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
609
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.949600 GHz
#RES BW 30 kHz
#VBW 30 kHz
SPAN 2.400 MHz
#SWP 2.00 sec


20: 18: 30 NOV 04, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 39.4 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
609
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 36.2 0.0 36.2
100 kHz -10.2 26.0 -14.4 21.8
200 kHz -39.0 -2.8 -39.3 -3.2
250 kHz -42.4 -6.2 -44.2 -8.0
400 kHz -70.0 -33.8 -75.5 -39.3
600 kHz -82.6 -46.5 -81.2 -45.1
800 kHz -84.2 -48.0 -84.4 -48.3
1000 kHz -83.4 -47.2 -83.4 -47.3
1200 kHz -86.1 -49.9 -85.7 -49.6
1400 kHz -85.3 -49.1 -81.2 -45.0
1600 kHz -82.1 -45.9 -84.4 -48.2
1800 kHz -77.0 -40.8 -78.4 -42.2
CENTER 1.9496000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec

MEASUREMENT: 3B

MEASUREMENT

OF

OCCUPIED BANDWIDTH

AFTER COMBINER

BLOCK E

(1965 – 1970 MHz)

Left Edge:	**1965.4 MHz (Channel 688)**
Center:	**1967.6 MHz (Channel 699)**
Right Edge:	**1969.6 MHz (Channel 709)**

21:16:31 NOV 04, 1999

FCC ID: AS5BTS2K-01

REF 39.2 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
688
TN 0
BURST
1

SA SB
SC EC
CORR

OUTPUT RF SPECTRUM
Modulation

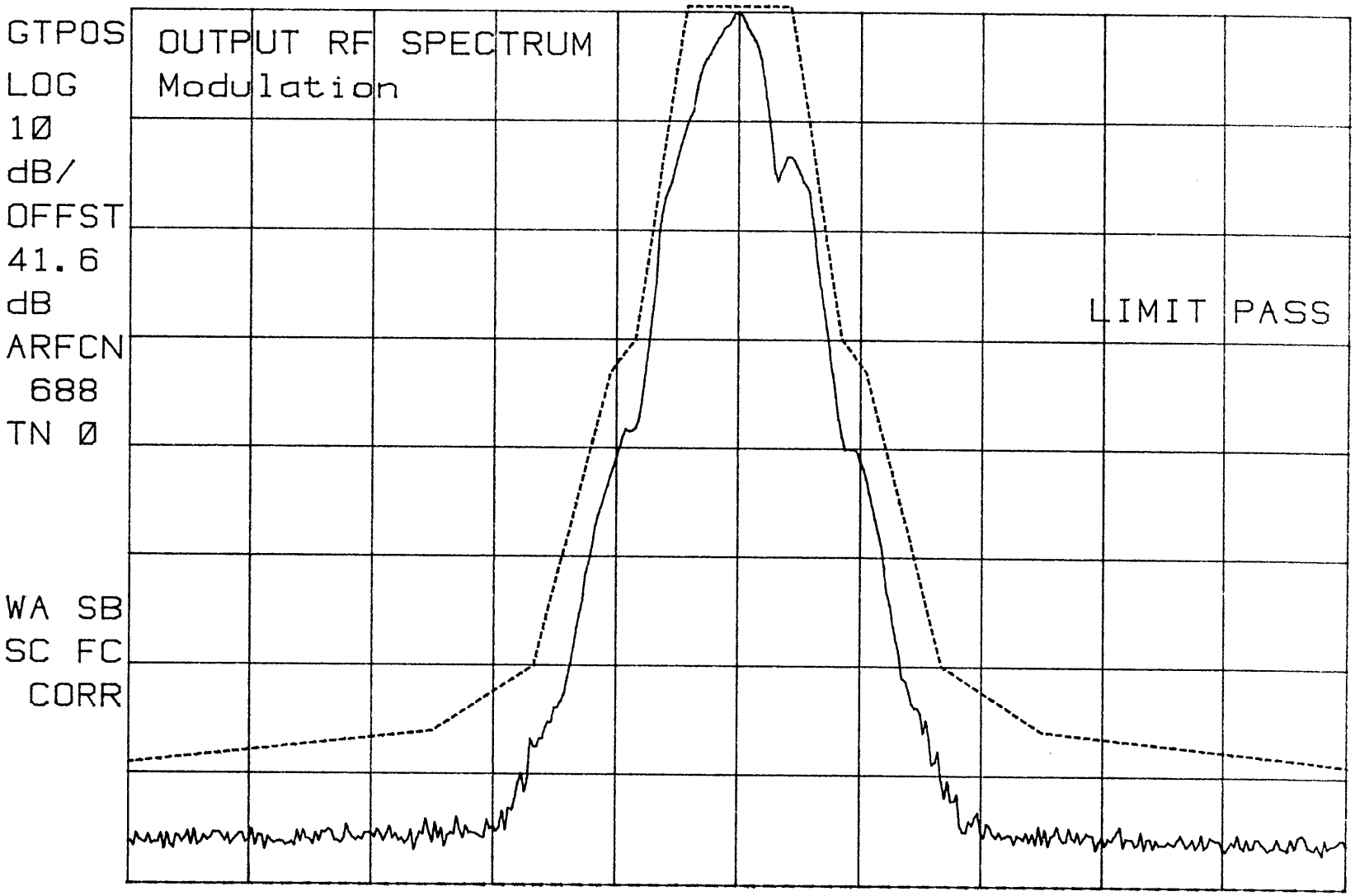
	- Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.0	0.0	36.0
100 kHz	-10.2	25.9	-14.5	21.6
200 kHz	-39.1	-3.1	-39.4	-3.3
250 kHz	-42.4	-6.3	-44.3	-8.2
400 kHz	-70.3	-34.2	-74.0	-37.9
600 kHz	-83.3	-47.2	-80.5	-44.5
800 kHz	-81.9	-45.9	-82.9	-46.8
1000 kHz	-83.1	-47.0	-84.9	-48.9
1200 kHz	-87.6	-51.5	-84.9	-48.8
1400 kHz	-86.3	-50.3	-83.7	-47.7
1600 kHz	-85.2	-49.1	-83.0	-47.0
1800 kHz	-78.5	-42.5	-79.6	-43.5

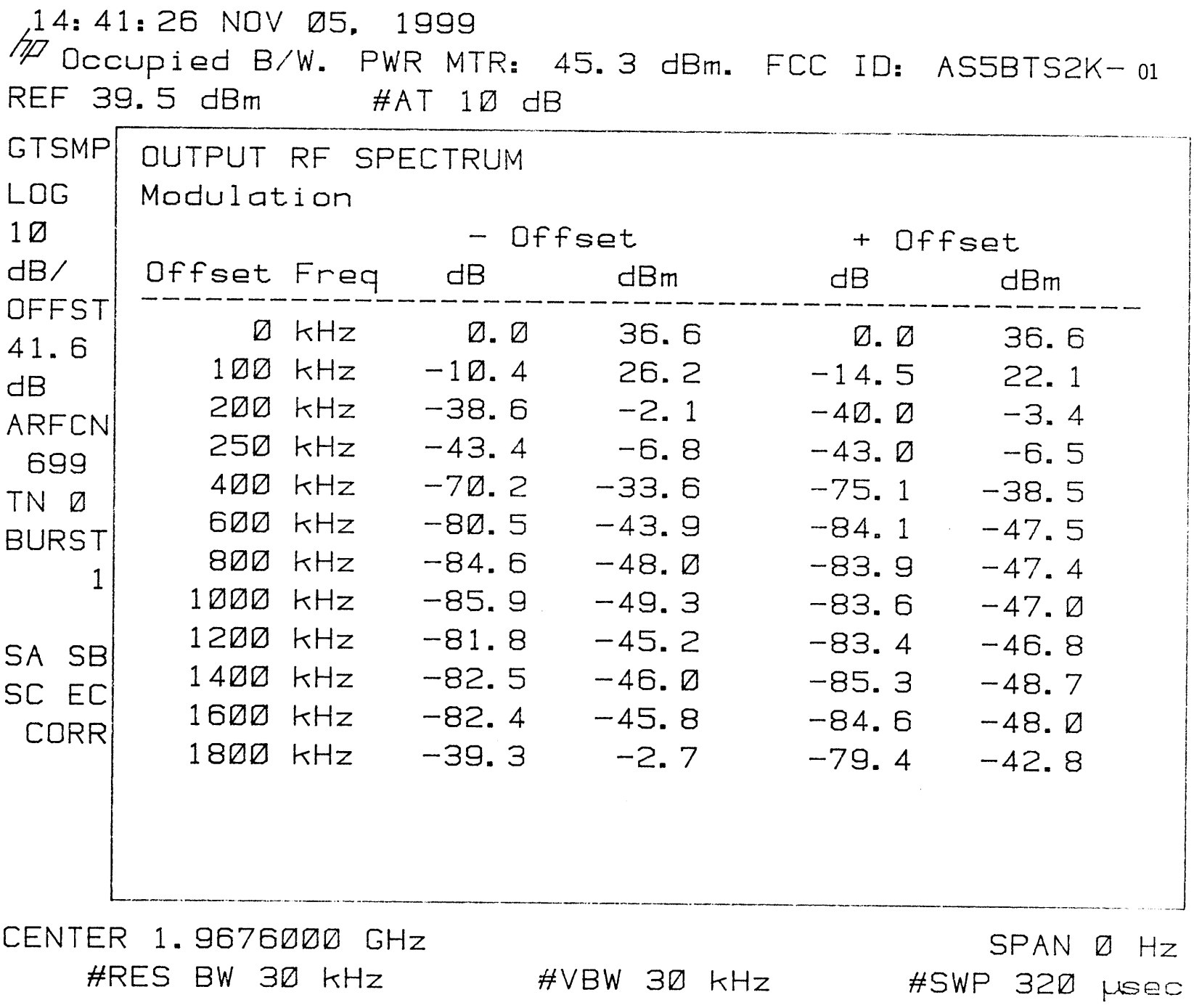
CENTER 1.9654000 GHz SPAN 0 Hz

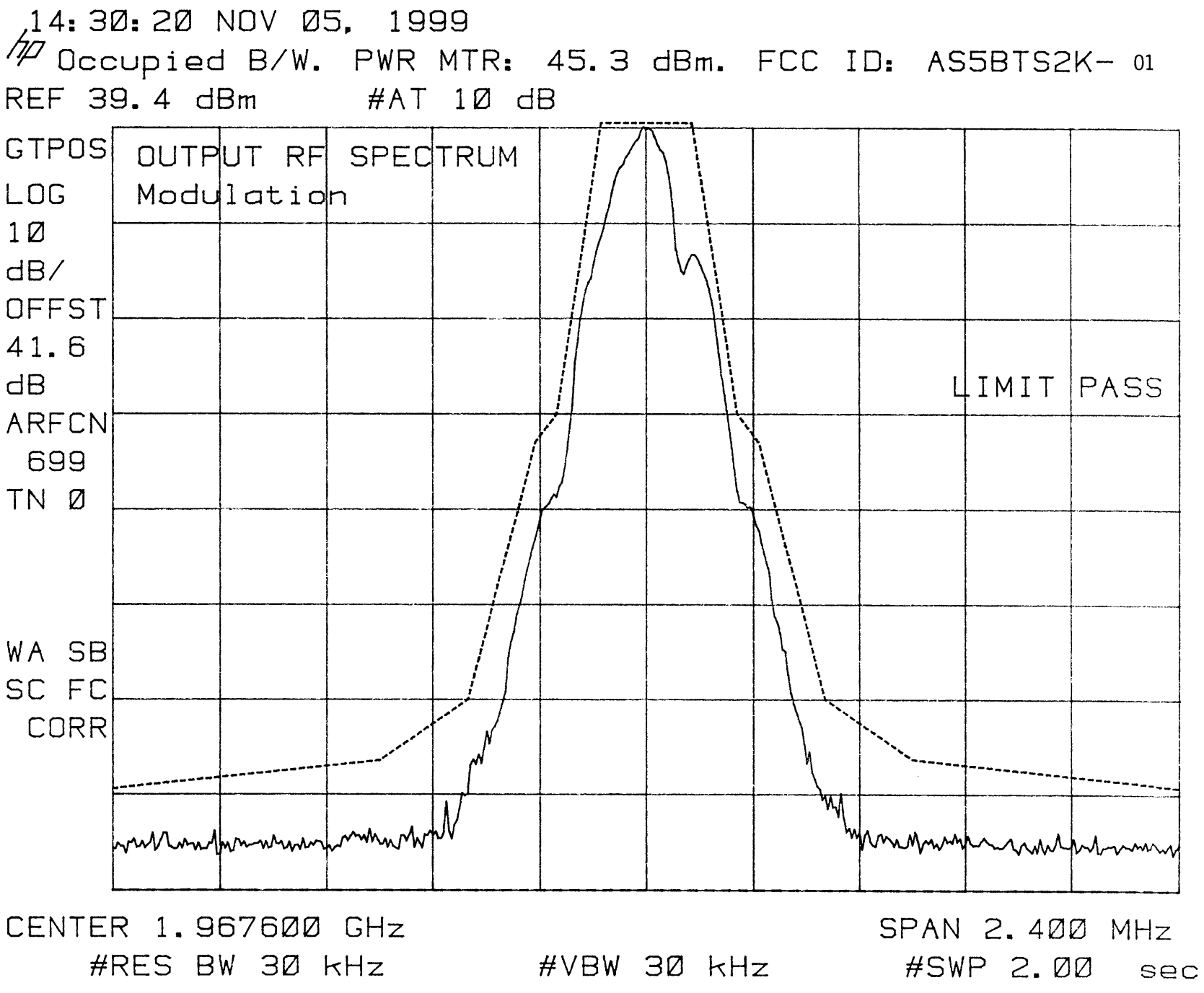
#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec

21:11:24 NOV 04, 1999

FCC ID: AS5BTS2K-01




14:41:26 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.5 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
699
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq dB dBm dB dBm
0 kHz 0.0 36.6 0.0 36.6
100 kHz -10.4 26.2 -14.5 22.1
200 kHz -38.6 -2.1 -40.0 -3.4
250 kHz -43.4 -6.8 -43.0 -6.5
400 kHz -70.2 -33.6 -75.1 -38.5
600 kHz -80.5 -43.9 -84.1 -47.5
800 kHz -84.6 -48.0 -83.9 -47.4
1000 kHz -85.9 -49.3 -83.6 -47.0
1200 kHz -81.8 -45.2 -83.4 -46.8
1400 kHz -82.5 -46.0 -85.3 -48.7
1600 kHz -82.4 -45.8 -84.6 -48.0
1800 kHz -39.3 -2.7 -79.4 -42.8
CENTER 1.9676000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec


14:30:20 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 39.4 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
699
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.967600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec

21:52:59 NOV 04, 1999 FCC ID: AS5BTS2K-01

REF 39.6 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
709
TN 0
BURST
1

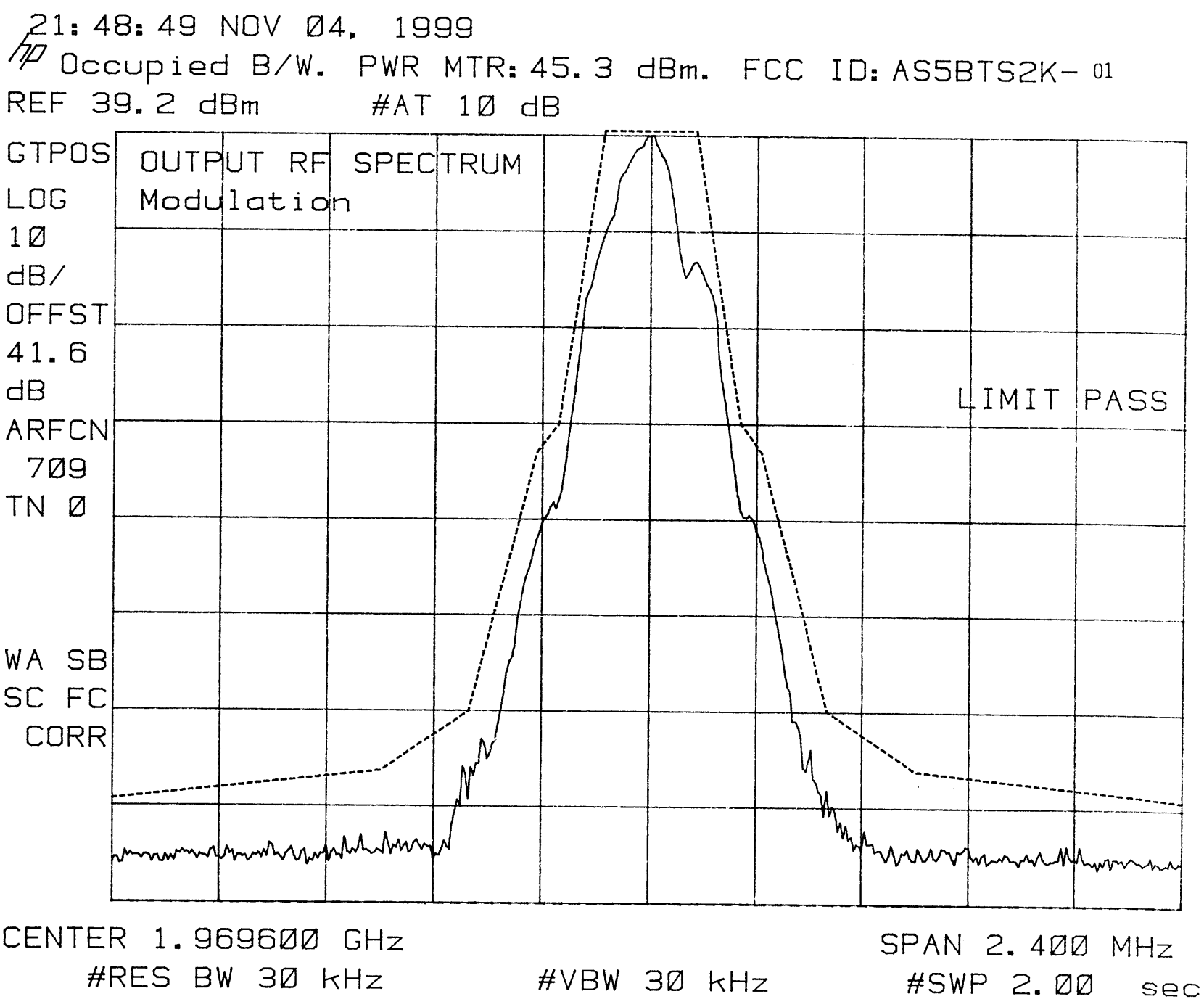
SA SB
SC EC
CORR

OUTPUT RF SPECTRUM
Modulation

	- Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.4	0.0	36.4
100 kHz	-10.2	26.2	-14.4	21.9
200 kHz	-38.7	-2.3	-39.3	-2.9
250 kHz	-42.7	-6.3	-44.2	-7.8
400 kHz	-70.0	-33.7	-73.3	-36.9
600 kHz	-80.0	-43.7	-79.8	-43.5
800 kHz	-82.6	-46.2	-82.5	-46.2
1000 kHz	-83.3	-47.0	-82.5	-46.2
1200 kHz	-84.4	-48.0	-84.6	-48.2
1400 kHz	-83.5	-47.1	-83.7	-47.3
1600 kHz	-83.2	-46.9	-83.5	-47.2
1800 kHz	-77.2	-40.8	-78.3	-42.0

CENTER 1.9696000 GHz SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec


21:48:49 NOV 04, 1999
Occupied B/W. PWR MTR:45.3 dBm. FCC ID:AS5BTS2K-01
REF 39.2 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
709
TN 0
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
WA SB
SC FC
CORR
CENTER 1.969600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec

MEASUREMENT: 3B

MEASUREMENT

OF

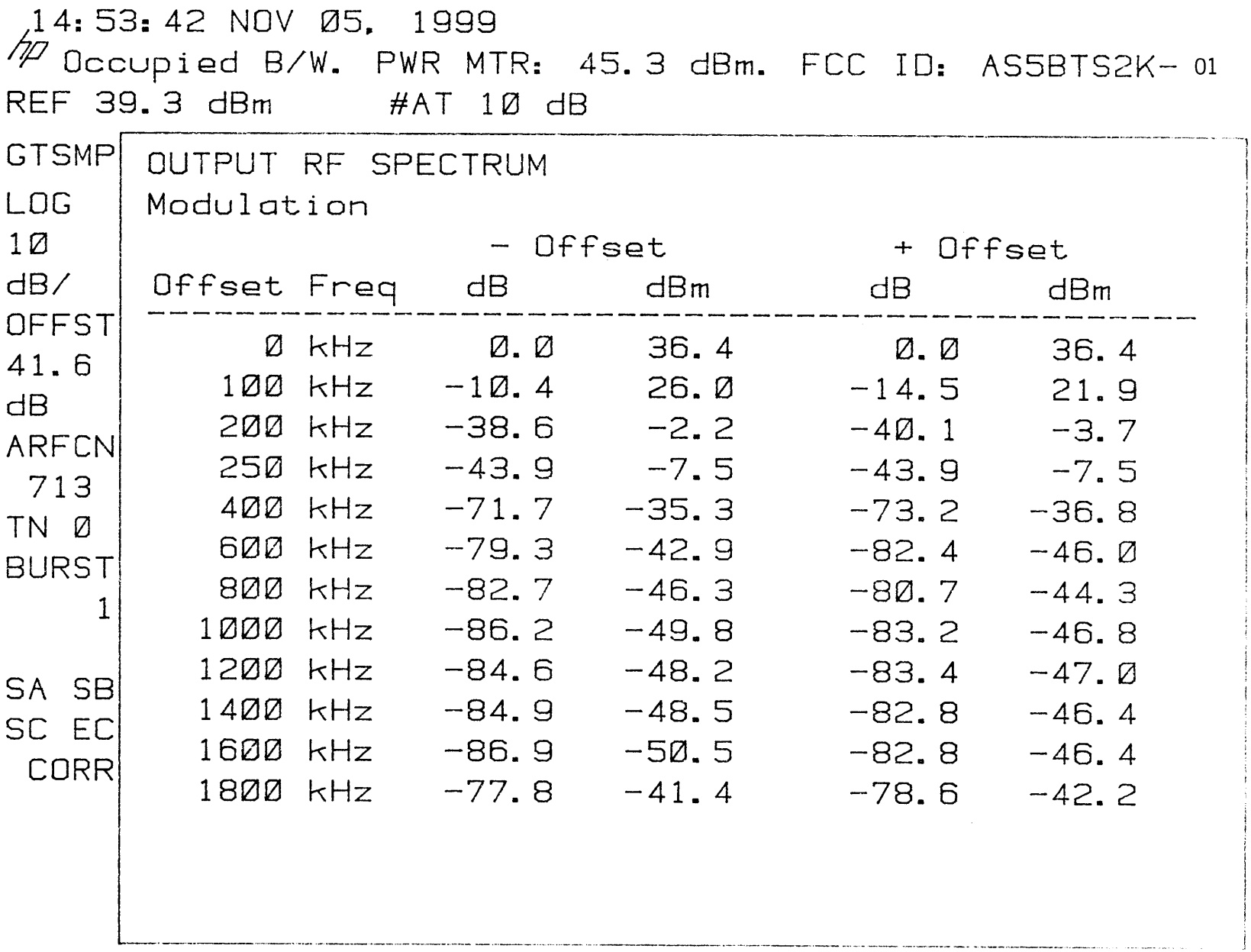
OCCUPIED BANDWIDTH

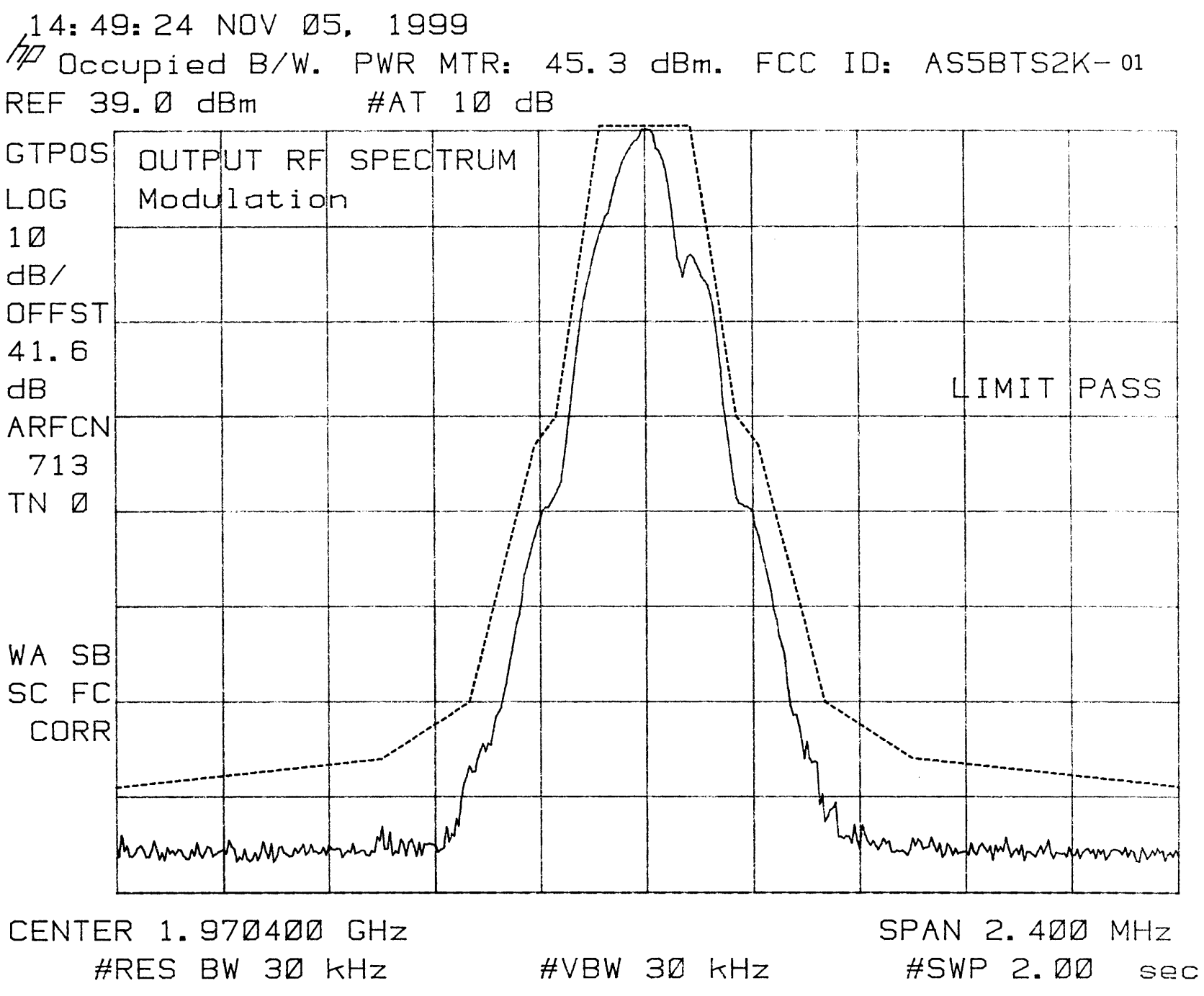
AFTER COMBINER

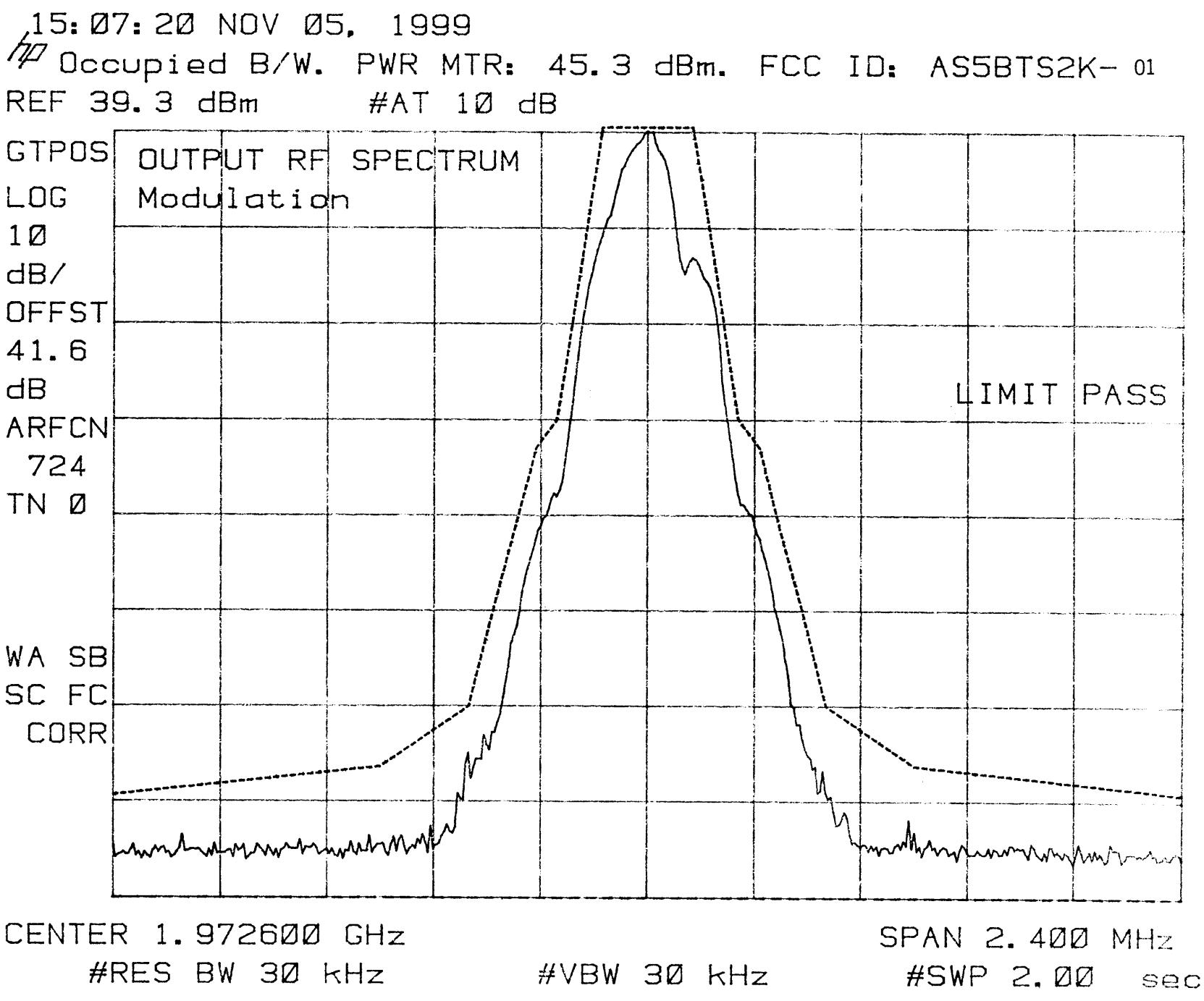
BLOCK F

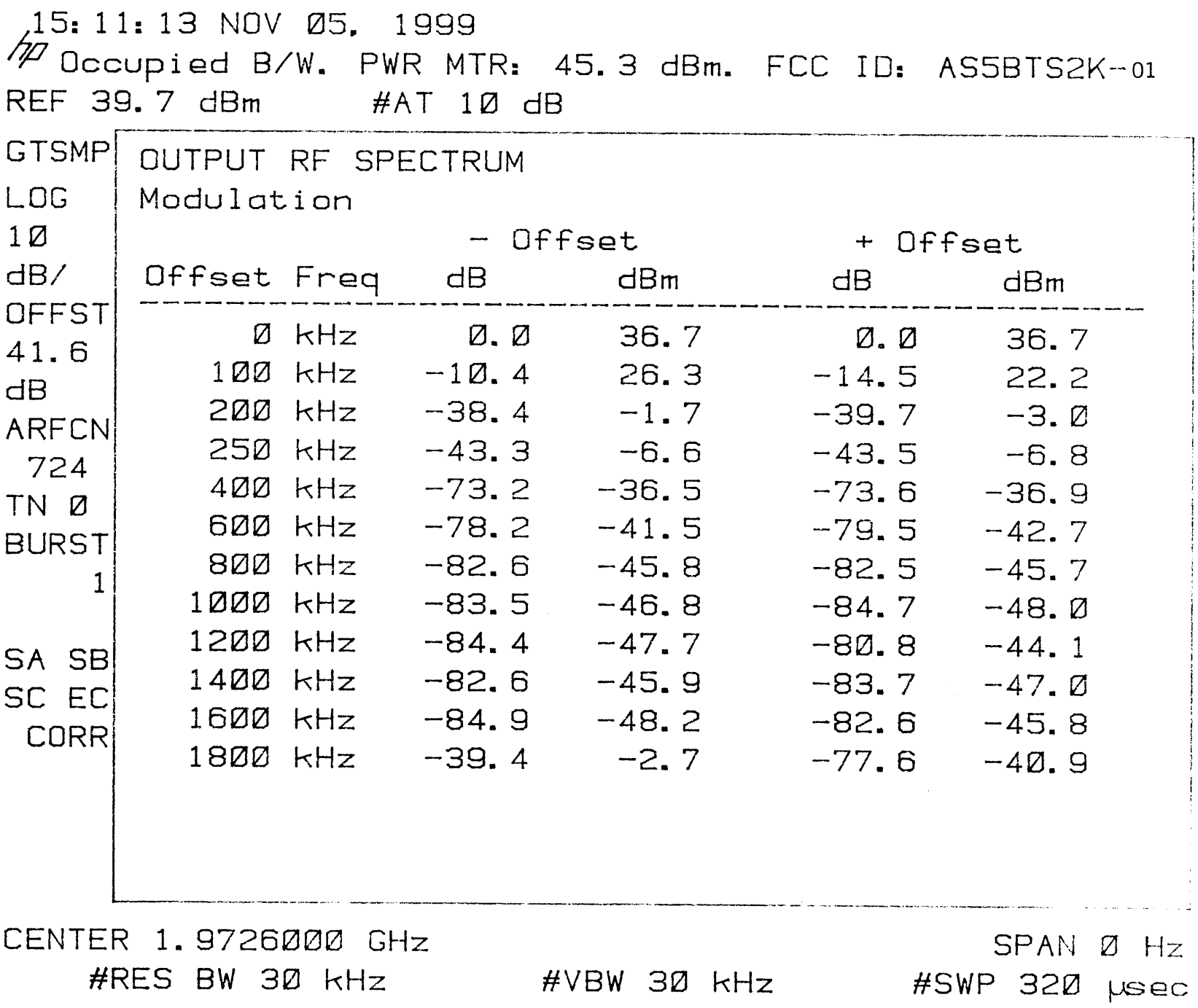
(1970 – 1975 MHz)

Left Edge:	**1970.4 MHz (Channel 713)**
Center:	**1972.6 MHz (Channel 724)**
Right Edge:	**1974.6 MHz (Channel 734)**

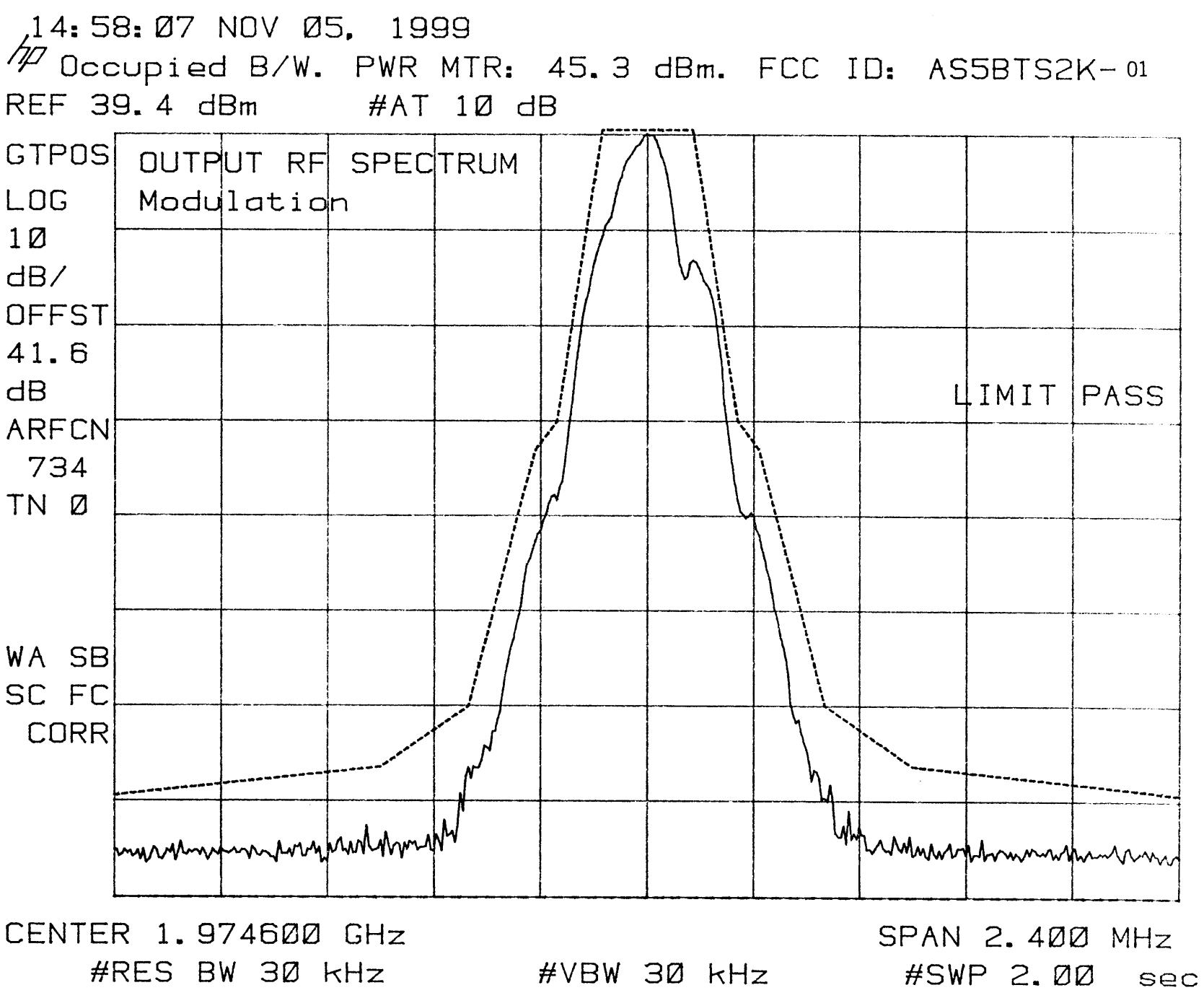

14:53:42 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.3 dBm
#AT 10 dB
GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
713
TN 0
BURST
1
SA SB
SC EC
CORR
OUTPUT RF SPECTRUM
Modulation
- Offset
+ Offset
Offset Freq
dB
dBm
dB
dBm
0 kHz 0.0 36.4 0.0 36.4
100 kHz -10.4 26.0 -14.5 21.9
200 kHz -38.6 -2.2 -40.1 -3.7
250 kHz -43.9 -7.5 -43.9 -7.5
400 kHz -71.7 -35.3 -73.2 -36.8
600 kHz -79.3 -42.9 -82.4 -46.0
800 kHz -82.7 -46.3 -80.7 -44.3
1000 kHz -86.2 -49.8 -83.2 -46.8
1200 kHz -84.6 -48.2 -83.4 -47.0
1400 kHz -84.9 -48.5 -82.8 -46.4
1600 kHz -86.9 -50.5 -82.8 -46.4
1800 kHz -77.8 -41.4 -78.6 -42.2
CENTER 1.9704000 GHz
SPAN 0 Hz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 320 µsec


14:49:24 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.0 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
713
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.970400 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec


15:07:20 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K- 01
REF 39.3 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
724
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.972600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec



	− Offset		+ Offset	
Offset Freq	dB	dBm	dB	dBm
0 kHz	0.0	36.7	0.0	36.7
100 kHz	-10.4	26.3	-14.5	22.2
200 kHz	-38.4	-1.7	-39.7	-3.0
250 kHz	-43.3	-6.6	-43.5	-6.8
400 kHz	-73.2	-36.5	-73.6	-36.9
600 kHz	-78.2	-41.5	-79.5	-42.7
800 kHz	-82.6	-45.8	-82.5	-45.7
1000 kHz	-83.5	-46.8	-84.7	-48.0
1200 kHz	-84.4	-47.7	-80.8	-44.1
1400 kHz	-82.6	-45.9	-83.7	-47.0
1600 kHz	-84.9	-48.2	-82.6	-45.8
1800 kHz	-39.4	-2.7	-77.6	-40.9


14:58:07 NOV 05, 1999
Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01
REF 39.4 dBm
#AT 10 dB
GTPOS
LOG
10
dB/
OFFST
41.6
dB
ARFCN
734
TN 0
WA SB
SC FC
CORR
OUTPUT RF SPECTRUM
Modulation
LIMIT PASS
CENTER 1.974600 GHz
SPAN 2.400 MHz
#RES BW 30 kHz
#VBW 30 kHz
#SWP 2.00 sec

15:02:37 NOV 05, 1999

Occupied B/W. PWR MTR: 45.3 dBm. FCC ID: AS5BTS2K-01

REF 39.6 dBm #AT 10 dB

GTSMP
LOG
10
dB/
OFFST
41.6
dB
ARFCN
734
TN 0
BURST
1

SA SB
SC EC
CORR

OUTPUT RF SPECTRUM
Modulation

		- Offset		+ Offset	
Offset	Freq	dB	dBm	dB	dBm
0	kHz	0.0	36.8	0.0	36.8
100	kHz	-10.5	26.3	-14.4	22.4
200	kHz	-39.0	-2.3	-39.6	-2.8
250	kHz	-43.8	-7.0	-43.6	-6.8
400	kHz	-72.9	-36.1	-73.9	-37.1
600	kHz	-82.1	-45.3	-83.1	-46.3
800	kHz	-84.7	-47.9	-83.7	-46.9
1000	kHz	-84.6	-47.8	-82.9	-46.1
1200	kHz	-82.6	-45.8	-83.3	-46.5
1400	kHz	-85.1	-48.4	-86.1	-49.3
1600	kHz	-84.2	-47.4	-80.9	-44.1
1800	kHz	-77.9	-41.1	-79.2	-42.4

CENTER 1.9746000 GHz SPAN 0 Hz

#RES BW 30 kHz #VBW 30 kHz #SWP 320 µsec