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Date:
6. C= 3x18, F= 1 H2
(a.) $\lambda = \frac{c}{f} \cdot \lambda = \frac{3 \times 10^8 \text{ m/s}}{1 + 2}$, $\lambda = \frac{300000000}{4} = 750000000$
b.) >= € , F= (3x18)/(4 * 0.8522) ≈ 88, 308, 518.1
~ \$ \$ 88,30852 KH2
(1) \ 3 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
20 hatered months us to suffragely mitallest out ?
7. The optimum wavelength for a half-wave dipole
is twice the length of the dipole. Therefor, the option
watelength is lo m X2 = 20 m. The frequency can be calcul
using the formula: Frequency = (Speed of light / wavelength) = (3 × 108 m/s) / 20 m = 15 × 10 Hz = 15 MHz.
8. Antenna gain is the power output in a particular direction
compared to that Produced in any direction by a perfect
ompidirectional antenna (isotropic autenna). The beam width and
antenna gain are telated, where a narrower beam width
usually corresponds to a higher entenna gain.
9. The propagation modes are:
- Ground wave propagation
- Sky Wave Propagation
we see state properation

Date:			
10. dm }	JERNT +	JZRhR . A	= 6.4 x18
2.) dm = J2X	6. 4 XIO X 100	+ 52 x 6.4 x 18 X	9=35777 m
Am .	mbrie	35.777x1	3 m = 35.777 12.
0.) 1000 m =1	.km :	1 5 min/s	Had street recovery
	C Party Strain	52 x 6.4 x 18 x	100 = 148914 m
dm = 148.9	2/ /	148.914 84	
C.1 dm = 52x6.4	X10 X 120 3	1 J2X6-4X18X	1000 : 152328
dw = 152.3		= 152.328 K	
11:		Two-A	and the same of th
- Attenuation en	& attenuation	distartion	
		cH account	mont + MOH =
- Thee Space loss	orthon sa	D 25 Stort 0"	a good a market and
- Noise	Α		
- Atmospheric ab	ca alan	[87] M M (61	X 11 Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z
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- Multipath		1 2/1	A
- Refraction	200	3	
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-Thermal hoise		ENXINES	- 1 2 1 C
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Date:
13. we can use the formula: Noise power density KT (W/Hz)
Where K is Boltzmann's constant (1.3803 x 103 1/K) and T
is the temperature in Kelvins.
Temperature in Kelvins = 17 + 273, 15 = 290 #
Moise power density = (1.3803 x 123 J/K) * 290 Mg X = 4 x 163 W/Hz = -204 BW/Hz
17. mid Fill BPT - m OAX PIP BPT - mb
Free Space loss (indB) = 20 log 10 (d) + 20 log (F) - 147.55
convert distance to meters: 35.863 Km = 35.863.000 majors
d: 35.863.000 meters
f= 46H2 = 4000.000 Hz
Free space Loss = 20 loglo (35.863.000) + 20 loglo (4.000.000.000)
-147.55 = 20 x 7.5534 = (151.068) dB and 20x 96021=
(192.042) &B : Free space loss & 151,008 + 192.042=195.56 JB
Free space loss (with entenne gain) =
195.56 28 - (4488 + 4898) = (95.58 28 - 92 98 = 103.58 28
10. Los distance = J2*h1*h2
C. M1 = 100m, h2 = ct the ground = 0
Los distance = V2x100x0 = 0.50 max distance = 0m
Case For a. hi = (Max Distance^2)/(2*h2)
M= (0/2)/(2*10) = 0 m
b. h1= 1 Km, h2=100 m
Max Distance = 12x1000x100 = 447.21 m
cont - other Page

	D.	Date:
density KT (W/Hz)		Case for b. W. = (447.21 2) (2*0) = 10,024.05 m
3 x 10° J/K) and T	6-11	
Chillian St.	ALECTICAL III DONNE	C. h1=120m, h2=1 km
X		Max Distance = 52 x 120 x 1200 = 489.90 m
× 29000 K		(ase for c. h1 = (489.90 =) / (2 +10) = 11.848.05 w
IKK OKEWS WE	5	
112 8121 - mb	5	
20 log(F)-147.55	6 9 3	
:35.863.000 majers		
Land State	6	
o loglo (4.000.000.000)	6 3	
end 20 × 96021 2	6 6 9	
E 192.042=195.56 dB	6 3	
- 45 9B = 103.28 9B		
distance = om		
(he)		
		MASCO [®]